This draft registration statement has not been filed publicly with the Securities and Exchange Commission and all information contained herein remains confidential.

As confidentially submitted to the Securities and Exchange Commission on September 23, 2013

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM S-1
REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

AMEDICA CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	3841	84-1375299
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(IRS Employer Identification No.)

1885 West 2011 South
Salt Lake City, UT 84119
(801) 839-3500
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Eric K. Olson
Chief Executive Officer
Amedica Corporation
1885 West 2011 South
Salt Lake City, UT 84119
(801) 839-3500
(Name, address, including zip code, and telephone number, including area code, of agent for service)

With copies to:

Jonathan L. Kravetz, Esq. Anthony E. Hubbard, Esq. Daniel T. Kajunski, Esq. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. One Financial Center Boston, MA 02111 (617) 542-6000	Babak Yaghmaie Darren K. DeStefano Charles S. Kim Cooley LLP 1114 Avenue of the Americas New York, NY 10036 (212) 479-6000

Approximate date of commencement of proposed sale to public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are being offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 (the "Securities Act"), check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and smaller reporting company" in Rule 12b-2 of the Exchange Act.

(Check one):

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☒ (Do not check if a smaller reporting company)	Smaller reporting company ☐

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price(1)	Amount of registration fee
Common Stock, $0.01 par value per share		

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act. Includes the offering price of additional shares that the underwriters have the option to purchase.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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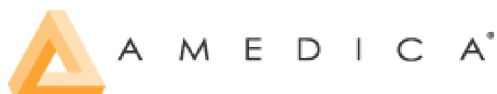
The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell securities, and we are not soliciting offers to buy these securities, in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED SEPTEMBER 23, 2013

PRELIMINARY PROSPECTUS



Shares

Common Stock

$ per share

Amedica Corporation is offering shares of its common stock. This is our initial public offering and no public market currently exists for our shares. We anticipate that the initial public offering price of our common stock will be between $ and $ per share.

We intend to apply to have our common stock listed on The NASDAQ Global Market under the symbol “ .”

We are an “emerging growth company” as defined under the Jumpstart Our Business Startups Act of 2012, and as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

We have granted the underwriters an option for a period of 30 days to purchase up to an additional shares of common stock.

Investing in our common stock involves risks. See “Risk Factors” beginning on page 10.

	Per Share	Total
Public offering price	$	$
Underwriting discount	$	$
Proceeds, before expenses, to us	$	$

The underwriters expect to deliver the shares of common stock to purchasers on or about , 2013.

Neither the Securities and Exchange Commission nor any state securities regulators has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Stifel

JMP Securities

The date of this prospectus is , 2013.

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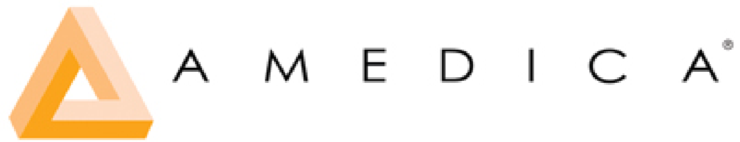
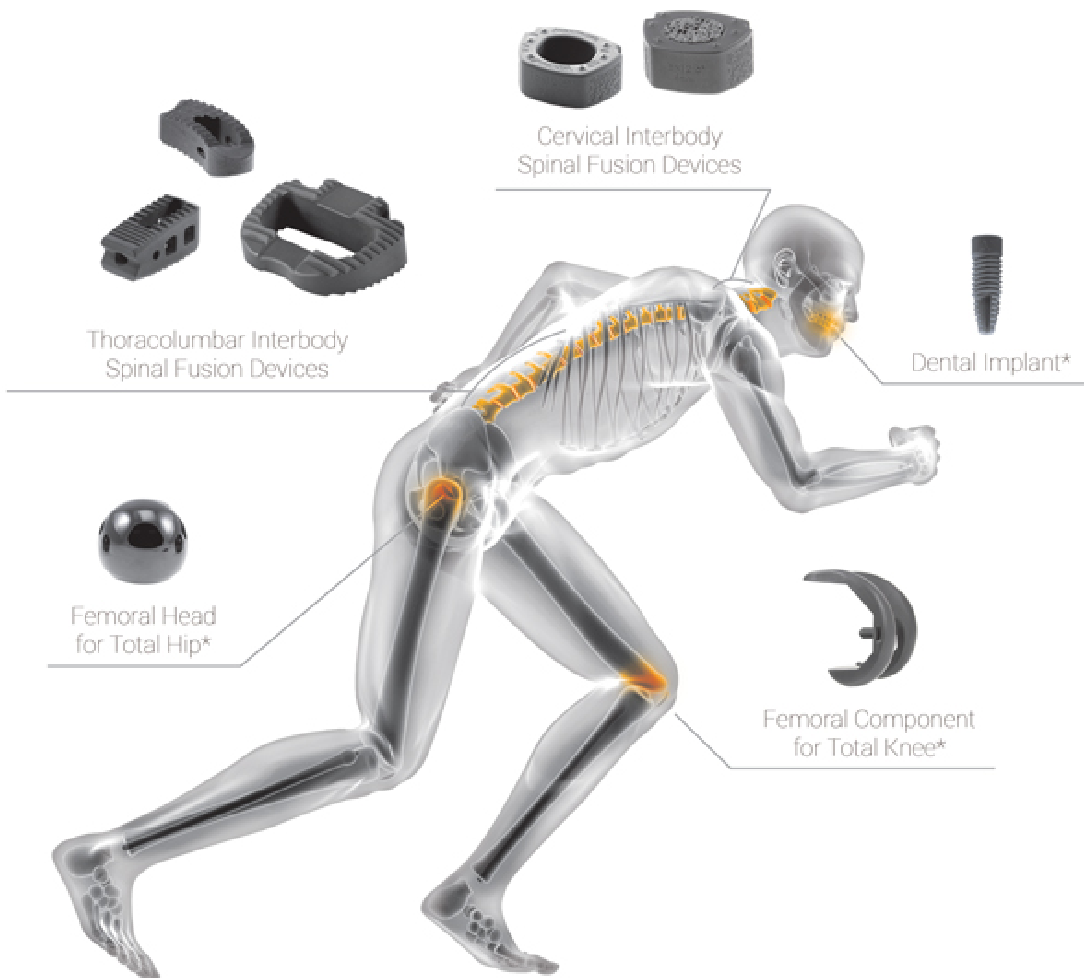


Material Matters



*Product Candidates

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Through and including , 2013 (25 days after the commencement of this offering), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery is in addition to a dealer’s obligation to deliver a prospectus when acting as an underwriter and with respect to their unsold allotments or subscriptions.

You should rely only on the information contained in this prospectus. Neither we nor any of the underwriters has authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus or any free writing prospectus prepared by or on behalf of us or to which we may have referred you in connection with this offering. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither we nor any of the underwriters is making an offer to sell or seeking offers to buy these securities in any jurisdiction where or to any person to whom the offer or sale is not permitted. The information in this prospectus is accurate only as of the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or of any sale of shares of our common stock, and the information in any free writing prospectus that we may provide you in connection with this offering is accurate only as of the date of that free writing prospectus. Our business, financial condition, results of operations and future growth prospects may have changed since those dates.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe these industry publications and third-party research, surveys and studies are reliable, we have not independently verified such data.

For investors outside the United States: neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus or any free writing prospectus we may provide to you in connection with this offering in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus and any free writing prospectus outside of the United States.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in shares of our common stock and it is qualified in its entirety by, and should be read in conjunction with the more detailed information appearing elsewhere in this prospectus. You should read the entire prospectus carefully, especially "Risk Factors" and our consolidated financial statements and the related notes included in this prospectus. Unless the context requires otherwise, references to "Amedica," "we," "our" and "us" in this prospectus refer to Amedica Corporation and its subsidiary.

Amedica Corporation

Our Company

We are a commercial biomaterial company focused on using our silicon nitride technology platform to develop, manufacture and sell a broad range of medical devices. We currently market spinal fusion products and are developing products for use in total hip and knee joint replacements. We believe our silicon nitride technology platform enables us to offer new and transformative products in the orthopedic and other medical device markets. We believe we are the first and only company to use silicon nitride in medical applications and over 11,500 of our silicon nitride spine products have been successfully implanted in patients.

Biomaterials are synthetic or natural materials available in a variety of forms that are used in virtually every medical specialty. We believe our silicon nitride biomaterial has superior characteristics compared to commonly used biomaterials in the markets we are targeting, including polyetheretherketone, or PEEK, which is the most common biomaterial used for interbody spinal fusion products. Specifically, we believe our silicon nitride has the following key attributes: promotion of bone growth; hardness, strength and resistance to fracture; resistance to wear; non-corrosive; anti-infective properties; and superior diagnostic imaging compatibility.

We currently market our *Valeo* family of silicon nitride interbody spinal fusion devices in the United States and Europe for use in the cervical and thoracolumbar areas of the spine. We believe our *Valeo* devices have a number of advantages over existing products due to silicon nitride's key characteristics, resulting in faster and more effective fusion and reduced risk of infection. To date, the rate of adverse events reportable to the U.S. Food and Drug Administration, or FDA, for our implanted *Valeo* interbody spinal fusion devices is 0.1%, which is significantly lower than the rate for devices made of PEEK.

In addition to our silicon nitride-based spinal fusion products, we market a complementary line of non-silicon nitride spinal fusion products which allows us to provide surgeons and hospitals with a broader range of products. Our product revenue was $23.1 million and $11.3 million for the year ended December 31, 2012 and for the six months ended June 30, 2013, respectively, of which sales of our silicon nitride products accounted for $6.6 million and $3.5 million, respectively.

We are also incorporating our silicon nitride technology into components for use in total hip and knee replacement product candidates that we are, or plan on, developing in collaboration with a strategic partner. We believe that our silicon nitride total hip and knee product candidates will provide competitive advantages over current products made with traditional biomaterials. We believe our silicon nitride technology platform can be used for developing products in other markets and have developed prototypes for use in the dental, sports medicine and trauma markets. As a result of some of the key characteristics of our silicon nitride, we also believe our coating technology may be used to enhance our metal products as well as commercially available metal spinal fusion, joint replacement and other medical products.

We operate a 30,000 square foot manufacturing facility located at our corporate headquarters in Salt Lake City, Utah, and we are the only vertically integrated silicon nitride orthopedic medical device manufacturer in the

world. We market and sell our products to surgeons and hospitals in the United States and select markets in Europe and South America through our established network of more than 50 independent sales distributors who are managed by our experienced in-house sales and marketing management team.

Market Opportunity

Our products and product candidates target the interbody spinal fusion and total hip and knee joint replacement markets. Based on industry publications, in 2012, the markets for spinal implants in the United States and in combined major European markets were over $5.0 billion and $500.0 million, respectively. Interbody spinal fusions accounted for over $1.0 billion and $100.0 million of these markets, respectively. Additionally, Orthopedic Network News reported that the U.S. markets for total hip and knee replacements in 2012 were $2.7 billion and $4.0 billion, respectively, which includes the $455.0 million U.S. and $1.5 billion European markets for the components of total hip and knee replacements that we are developing.

Our Silicon Nitride Technology Platform

We believe our silicon nitride is ideally suited for use in many medical applications and has the following characteristics that make it superior to other biomaterials:

- *Promotes Bone Growth*. The biomaterials used in interbody spinal fusion devices should promote bone growth in and around the device to further support fusion and stability. Our silicon nitride has an inherent surface chemistry and topography which creates an ideal environment for the promotion of new bone growth.

- *Hard, Strong and Resistant to Fracture*. The biomaterials used in interbody spinal fusion devices and joint replacement implants should be strong and resistant to fracture during implantation of the device and withstand the static and dynamic forces exerted on the spine or to adequately bear the significant loads placed on joints during daily activities. Biomaterials used in joint replacements should also be resistant to deformation, which is referred to as hardness. We believe our silicon nitride is hard, strong and resistant to fracture.

- *Anti-Infective*. Infection is a serious problem in orthopedic surgery and treating device-related infection generally requires extensive repeat surgery, including replacement, or revision, surgery, which extends patient suffering and increases costs. We have demonstrated in *in vitro* and *in vivo* studies that our silicon nitride has inherent anti-infective properties, which reduce the risk of infection in and around a silicon nitride device. We demonstrated that live bacteria counts were between 8 to 30 times lower on silicon nitride than PEEK and up to 8 times lower on silicon nitride than titanium, another commonly used biomaterial.

- *Imaging Compatible*. The biomaterials used in interbody spinal fusion devices should be visible through, and not inhibit the effective use of, common surgical and diagnostic imaging techniques, such as x-ray, CT and MRI. Our silicon nitride interbody spinal fusion devices are semi-radiolucent and clearly visible in x-rays, and produce no distortion under MRI and no scattering under CT. These characteristics enable an exact view of the device for precise intra-operative placement and post-operative bone fusion assessment in spinal fusion procedures. We believe these qualities provide surgeons with greater certainty of outcomes with our silicon nitride devices than with other biomaterials, such as PEEK and metals.

- *Resistant to Wear*. The biomaterials used in joint replacement procedures should have sufficient hardness and toughness, as well as extremely smooth surfaces, to effectively resist wear. Because the articulating implants move against each other, they are subject to friction and cyclic loading, which frequently lead to abrasive wear and fatigue failure. We believe joint implants incorporating our silicon nitride components will have comparable or higher resistance to wear than the two most commonly used combinations of biomaterials in total hip replacement implants.

- *Non-Corrosive*. Biomaterials should be non-corrosive and should not cause adverse patient reactions. Metal placed in the human body corrodes over time and also results in the release of metal ions that can cause serious adverse reactions and conditions. Our silicon nitride does not have the drawbacks associated with the corrosive nature of metal within the body nor does it result in the release of metal ions into the body.

We produce silicon nitride in four forms: (1) a fully dense, load-bearing solid, referred to as *MC^2*; (2) a porous bone-like cancellous structured form, referred to as *C^SC*; (3) a composite incorporating both our solid *MC^2* material and our porous *C^SC* material intended to promote an ideal environment for bone growth; and (4) a coating for application onto other biomaterials. This capability provides us with the ability to utilize our silicon nitride in distinct ways depending on its intended application, which, together with our silicon nitride's key characteristics, distinguishes us from manufacturers of other biomaterials and our products from products using other biomaterials.

Our Competitive Strengths

We believe we can use our silicon nitride technology platform to become a leading biomaterial company and have the following principal strengths:

- *Sole Provider of Silicon Nitride Medical Devices*. We believe we are the only company that designs, develops, manufactures and sells medical grade silicon nitride-based products.
- *In-House Manufacturing Capabilities*. We operate a 30,000 square foot manufacturing facility located at our corporate headquarters in Salt Lake City, Utah. This state-of-the-art facility allows us to rapidly design and produce silicon nitride products and control the entire manufacturing process from raw material to finished goods.
- *Established Commercial Infrastructure*. We market and sell our products to surgeons and hospitals in the United States and select markets in Europe and South America through our established network of more than 50 independent sales distributors who are managed by our experienced in-house sales and marketing management team.
- *Portfolio of Non-Silicon Nitride Products*. We offer a full suite of spinal fusion products, which increases our access to surgeons and hospitals and allows us to more effectively market our silicon nitride spinal fusion products to our customers.
- *Highly Experienced Management and Surgeon Advisory Team*. We have recently assembled a senior management team with over 150 years of collective experience in the healthcare industry. Members of our management team have experience in product development, launching of new products into the orthopedics market and selling to hospitals through direct sales organizations, distributors, manufacturers and other orthopedic companies. We also collaborate with a network of leading surgeon advisors in the design, development and use of our products and product candidates.

Our Strategy

Our goal is to become a leading biomaterial company focused on using our silicon nitride technology platform to develop, manufacture and commercialize a broad range of medical devices. Key elements of our strategy to achieve this goal are the following:

- *Drive Further Adoption of our Silicon Nitride Interbody Spinal Fusion Devices*. We believe that increasing the awareness of our silicon nitride technology by educating surgeons about its key benefits, and the design improvements to our silicon nitride products and related instruments, will accelerate the adoption of our products and ultimately help improve patient outcomes. To drive further awareness of our products and the associated benefits offered by our silicon nitride technology, we will continue to educate surgeons through multiple channels, including industry conferences and meetings, media outlets and through our sales and marketing efforts.

- *Continue to Implement our Design and Build Program*. In the first half of 2013, we initiated a commercialization strategy, referred to as our Design and Build Program, in which we collaborate with influential surgeons to develop customized silicon nitride spinal fusion products and instruments. We first sell these products to the designing surgeons and a team of evaluating surgeons. After evaluation and acceptance by these surgeons, we plan to introduce these products more broadly into the market. The first products designed under this program were sold for initial evaluation in the third quarter of 2013.
- *Enhance our Commercial Infrastructure*. We expect to increase the productivity of our sales and marketing team by continuing to engage experienced independent sales distributors with strong orthopedic surgeon relationships. We may also establish distribution collaborations in the United States and abroad when access to large or well-established sales and marketing organizations may help us gain access to new markets, increase sales in our existing markets or accelerate market penetration for selected products.
- *Develop Silicon Nitride for Total Joint Components*. We are incorporating our silicon nitride technology into components for use in total hip and knee replacement product candidates that we are, or plan on, developing in collaboration with a strategic partner. We are planning to confirm our regulatory strategy in the United States with the FDA for our total hip implant product candidates by the end of 2013.
- *Apply our Silicon Nitride Technology Platform to Other Opportunities.* Our silicon nitride technology platform is adaptable and we believe it may be used to develop products to address other significant opportunities, such as in the dental, sports medicine and trauma markets. We have manufactured prototypes of dental implants, sports medicine and trauma products, and we have developed a process to coat metals with our silicon nitride to enhance current medical devices and instruments. We plan to collaborate with other companies to develop and commercialize any future products in those areas.

Risks Associated with Our Business

Our business is subject to a number of risks that you should be aware of before making an investment decision. These risks are discussed more fully in the section of this prospectus entitled “Risk Factors” immediately following this prospectus summary. You should read these risks before you invest in our common stock. We may be unable, for many reasons, including those that are beyond our control, to implement our business strategy. In particular, risks associated with our business include:

- our accumulated deficit as of June 30, 2013, of $138.0 million, and we expect we will continue to incur additional, and possibly increasing, losses, which, among other things, raises doubts about our ability to continue as a going concern;
- our success depends on our ability to successfully commercialize silicon nitride-based medical devices, which to date have experienced only limited market acceptance and may not be widely accepted by hospitals and surgeons in the future;
- we may not be able to increase the productivity of our sales and marketing infrastructure to successfully penetrate the spinal fusion market;
- our long-term success depends substantially on our ability to obtain regulatory clearance or approval of our product candidates and then successfully commercializing these product candidates;
- the orthopedic market is highly competitive and we may not be able to compete effectively against the larger, well-established companies that dominate this market or emerging and small innovative companies; and
- we and our independent registered public accounting firm have identified material weaknesses and a significant deficiency in our internal control over financial reporting, which increases the risk of material misstatements in our future financial statements.

Implications of Being an Emerging Growth Company

As a company with less than $1.0 billion in revenue during our most recently completed fiscal year, we qualify as an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933 or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable, in general, to public companies that are not emerging growth companies. These provisions include:

- reduced disclosure about our executive compensation arrangements;
- no requirement to hold non-binding stockholder advisory votes on executive compensation or golden parachute arrangements;
- exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting; and
- reduced disclosure of financial information in this prospectus, including two years of audited financial information and two years of selected financial information.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock. We would cease to be an emerging growth company if we have more than $1.0 billion in annual revenues as of the end of a fiscal year, if we are deemed to be a large-accelerated filer under the rules of the Securities and Exchange Commission, or if we issue more than $1.0 billion of non-convertible debt over a three-year-period.

The JOBS Act also permits us, as an emerging growth company, to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies and thereby allows us to delay the adoption of those standards until those standards would apply to private companies. We are electing to use this extended transition period under the JOBS Act. As a result, our financial statements may not be comparable to the financial statements of issuers who are required to comply with the effective dates for new or revised accounting standards that are applicable to public companies.

Corporate Information

We were incorporated in Delaware in 1996 under the name Amedica Corp. and have since changed our name to Amedica Corporation. Effective September 20, 2010, we acquired all of the outstanding shares of US Spine, Inc. which then became our wholly-owned subsidiary, which is our only subsidiary. Our principal executive offices are located at 1885 West 2100 South, Salt Lake City, Utah 84119, and our telephone number is (801) 839-3500. Our web site address is www.amedicacorp.com. The information on, or that may be accessed through, our web site is not incorporated by reference into this prospectus and should not be considered a part of this prospectus.

Certain monetary amounts, percentages and other figures included in this prospectus have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated may not be the arithmetic aggregation of the percentages that precede them.

"Amedica," "*C*^{s}*C*," "*MC*^{2}," "*Valeo*" and "rethink what's possible" are registered U.S. trademarks of Amedica Corporation. "US Spine" is a registered U.S. trademark of our subsidiary, US Spine, Inc. All other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. Trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols for convenience. Such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

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THE OFFERING

Common stock offered by us	shares (or shares if the underwriters exercise in full their option to purchase additional shares)
Common stock to be outstanding after this offering	shares (or shares if the underwriters exercise in full their option to purchase additional shares)
Option to purchase additional shares	We have granted to the underwriters the option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares of common stock.
Use of proceeds	We intend to use the net proceeds from this offering (i) to continue to build sales, marketing and distribution capabilities for our silicon nitride technology platform, including the costs of inventory and instruments, (ii) to fund research and development and commercialization activities of our product candidates, including the funding of clinical trials we plan to conduct for our product candidates, and (iii) to support working capital needs and other general corporate purposes, including debt service under our existing term loan and credit facility with General Electric Capital Corporation and Zions First National Bank. See "Use of Proceeds."
Offering price	$ per share
Risk factors	See "Risk Factors" beginning on page 10 and other information included in this prospectus for a discussion of factors that you should consider carefully before deciding to invest in our common stock.
Proposed NASDAQ Global Market symbol	

The number of shares of our common stock to be outstanding after this offering is based on 14,299,125 shares of common stock outstanding as of June 30, 2013, and assumes the conversion of all of our shares of convertible preferred stock outstanding as of June 30, 2013 into shares of common stock upon the completion of this offering. It does not include:

- 3,958,485 shares of common stock issuable upon the exercise of outstanding options to purchase common stock as of June 30, 2013 under our 2003 Stock Option Plan, or the 2003 Plan, at a weighted-average exercise price of $0.98 per share;
- 2,344,731 shares of common stock issuable upon the exercise of warrants for shares of Series C, Series D, Series E and Series F convertible preferred stock, on an as converted basis, outstanding as of June 30, 2013, at a weighted-average exercise price of $2.30 per share;

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- 9,721,928 shares of common stock issuable upon the exercise of warrants for shares of our common stock outstanding as of June 30, 2013, at a weighted-average exercise price of $1.09 per share;
- 3,401,950 shares of common stock issuable upon the vesting of outstanding restricted stock units, or RSUs, issued under our 2012 Employee, Director and Consultant Equity Incentive Plan, or the 2012 Plan, outstanding as of June 30, 2013; and
- 6,749,352 additional shares of common stock reserved for issuance under the 2012 Plan.

Unless otherwise indicated, all information contained in this prospectus:

- assumes the underwriters do not exercise their option to purchase up to an additional   shares of our common stock;
- reflects a 1-for-   reverse split of our common stock to be effected on   , 2013;
- reflects the automatic conversion of all of our outstanding shares of convertible preferred stock into   shares of common stock upon completion of this offering;
- reflects the conversion of all outstanding warrants exercisable for   shares of preferred stock into warrants exercisable for shares of common stock upon completion of this offering; and
- assumes the adoption of our amended and restated certificate of incorporation and amended and restated bylaws upon the completion of this offering.

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SUMMARY CONSOLIDATED FINANCIAL DATA

The summary consolidated financial data set forth below should be read in conjunction with our consolidated financial statements and the related notes, "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus.

We derived the summary consolidated statement of comprehensive loss data for the fiscal years ended December 31, 2011 and 2012 from our audited consolidated financial statements appearing elsewhere in this prospectus. We derived the summary consolidated statement of comprehensive loss data for the six months ended June 30, 2012 and 2013 and consolidated balance sheet data as of June 30, 2013 from our unaudited consolidated financial statements appearing elsewhere in this prospectus.

	Years Ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
			(unaudited)	
	(in thousands, except per share amounts)			
Consolidated Statement of Comprehensive Loss Data:				
Product revenue	$ 20,261	$ 23,065	$11,422	$11,306
Cost of revenue				
Product revenue	4,088	5,423	2,203	3,008
Write-down of excess and obsolete inventory	—	1,043	750	267
Total cost of revenue	4,088	6,466	2,953	3,275
Gross profit	16,173	16,599	8,469	8,031
Operating expenses:				
Research and development	7,789	6,013	3,128	2,201
General and administrative	7,263	7,313	3,559	3,072
Sales and marketing	17,145	17,094	7,840	8,172
Impairment loss on intangible assets	—	15,281	—	—
Change in fair value of contingent consideration	4,832	—	—	—
Total operating expenses	37,029	45,701	14,527	13,445
Loss from operations	(20,856)	(29,102)	(6,058)	(5,414)
Other expense, net	(2,895)	(6,659)	(1,976)	(955)
Net loss before income taxes	(23,751)	(35,761)	(8,034)	(6,369)
Income tax benefit	—	726	—	—
Net loss	$(23,751)	$(35,035)	$ (8,034)	$ (6,369)
Net loss per share attributable to common stockholders				
Basic and diluted(1)	$ (2.65)	$ (3.90)	$ (0.89)	$ (0.53)
Shares used to calculate net loss attributable to common stockholders				
Basic and diluted(1)	8,963	8,981	8,979	12,097
Pro forma net loss per share attributable to common stockholders (unaudited)				
Basic and diluted(1)		$		$
Weighted-average shares used to calculate pro forma net loss per share attributable to common stockholders (unaudited)				
Basic and diluted(1)				

(1) See Note 1 to our consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate the historical and pro forma net loss per share, basic and diluted, and the number of shares used in the computation of the per share amounts.

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	As of June 30, 2013 (unaudited) (in thousands)		
	Actual	Pro Forma(1)	Pro Forma as Adjusted (1)(2)
Consolidated Balance Sheet Data:			
Cash, restricted cash, cash equivalents and marketable securities(3)	$ 2,808	$	$
Working capital	(7,937)		
Total assets	28,872		
Long-term debt, including current portion	17,909		
Convertible preferred stock	153,474	—	—
Total stockholders' equity (deficit)	(151,663)		

(1) The pro forma balance sheet data above reflect our unaudited capitalization as of June 30, 2013, on a pro forma basis giving effect to (i) the automatic conversion of all outstanding shares of convertible preferred stock into an aggregate of shares of our common stock upon the completion of this offering, and (ii) the conversion of all outstanding warrants to purchase shares of our convertible preferred stock into warrants to purchase an aggregate of shares of our common stock (but not assuming the exercise of the common stock warrants) and the related reclassification of the preferred stock warrant liability to additional paid-in-capital upon the completion of this offering.

(2) The pro forma as adjusted balance sheet data above reflects the issuance of shares of our common stock upon the completion of this offering at an assumed initial public offering price of $ per share (the mid-point of the price range on the front cover of this prospectus) after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, as if this offering occurred on June 30, 2013.

(3) Restricted cash consists of cash we receive from payments of our accounts receivables held in a segregated account that must be applied to pay amounts owed under our revolving credit facility.

RISK FACTORS

An investment in shares of our common stock involves a high degree of risk. You should carefully read and consider the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes, before deciding to invest in our common stock. The occurrence of any of the following risks could have a material adverse effect on our business, financial condition, results of operations or cash flows. In that case, the trading price of our common stock could decline, and you could lose all or part of your investment.

Risks Related to Our Business and Strategy

We have incurred net losses since our inception and anticipate that we will continue to incur substantial net losses for the foreseeable future. We may never achieve or sustain profitability.

We have incurred substantial net losses since our inception. For the years ended December 31, 2011 and 2012 and the six months ended June 30, 2012 and 2013, we incurred a net loss of $23.8 million, $35.0 million, $8.0 million and $6.4 million, respectively, and used cash in operations of $14.9 million, $9.7 million, $5.5 million and $3.7 million, respectively. We have an accumulated deficit of $131.6 million as of December 31, 2012 and $138.0 million as of June 30, 2013. With the exception of a small net income for the years ended December 31, 2002 and 1999, we have incurred net losses in each year since inception. Our losses have resulted principally from costs incurred in connection with our sales and marketing activities, research and development activities, manufacturing activities, general and administrative expenses associated with our operations, impairments on intangible assets and interest expense. Even if we are successful in launching additional products into the market, we expect to continue to incur substantial losses for the foreseeable future as we continue to sell and market our current products and research and develop, and seek regulatory approvals for, our product candidates.

If sales revenue from any of our current products or product candidates that receive marketing clearance from the FDA or other regulatory body is insufficient, if we are unable to develop and commercialize any of our product candidates, or if our product development is delayed, we may never become profitable. Even if we do become profitable, we may be unable to sustain or increase our profitability on a quarterly or annual basis.

Our success depends on our ability to successfully commercialize silicon nitride-based medical devices, which to date have experienced only limited market acceptance.

We believe we are the first and only company to use silicon nitride in medical applications. To date, however, we have had limited acceptance of our silicon nitride-based products and our product revenue has been derived substantially from our non-silicon nitride products. In order to succeed in our goal of becoming a leading biomaterial technology company utilizing silicon nitride, we must increase market awareness of our silicon nitride interbody spinal fusion products, continue to implement our sales and marketing strategy, enhance our commercial infrastructure and commercialize our silicon nitride joint replacement components and other products. If we fail in any of these endeavors or experience delays in pursuing them, we will not generate revenues as planned and will need to curtail operations or seek additional financing earlier than otherwise anticipated.

Our current products and our future products may not be accepted by hospitals and surgeons and may not become commercially successful.

Although we received 510(k) regulatory clearance from the FDA for our first silicon nitride spinal fusion products in 2008, we have not been able to obtain significant market share of the interbody spinal fusion market to date, and may not obtain such market share in the future. Even if we receive regulatory clearances or approvals for our product candidates in development, these product candidates may not gain market acceptance among orthopedic surgeons and the medical community. Orthopedic surgeons may elect not to use our products for a variety of reasons, including:

- lack or perceived lack of evidence supporting the beneficial characteristics of our silicon nitride technology;

- limited long-term data on the use of silicon nitride in medical devices;
- lower than expected clinical benefits in comparison with other products;
- surgeons' perception that there are insufficient advantages of our products relative to currently available products;
- hospitals may choose not to purchase our products;
- group purchasing organizations may choose not to contract for our products, thus limiting availability of our products to hospital purchasers;
- the price of our products, which may be higher than products made of the other commonly used biomaterials in the interbody spinal fusion market and total joint market;
- lack of coverage or adequate payment from managed care plans and other third-party payors for the procedures that use our products;
- Medicare, Medicaid or other third-party payors may limit or not permit reimbursement for procedures using our products;
- ineffective marketing and distribution support;
- the time and resources that may be required for training, or the inadequate training, of surgeons in the proper use of our products;
- the development of alternative biomaterials and products that render our products less competitive or obsolete; and
- the development of or improvement of competitive products.

If surgeons do not perceive our silicon nitride products and product candidates as superior alternatives to competing products, we will not be able to generate significant revenues, if any.

Even if surgeons are convinced of the superior characteristics of our silicon nitride products and our product candidates that we successfully introduce compared to the limitations of the current commonly used biomaterials, surgeons may find other methods or turn to other biomaterials besides silicon nitride to overcome such limitations. For instance, with respect to interbody spinal fusion products, surgeons or device manufacturers may use more effective markers for enhancing the imaging compatibility of PEEK devices, more effective antibiotics to prevent or treat implant-related infections, and more effective osteoconductive and osteoinductive materials when implanting an interbody spinal fusion device. Device manufacturers may also coat metal with existing traditional ceramics to reduce the risk of metal wear particles and corrosion in total joint replacement implants. Additionally, surgeons may increase their use of metal interbody spinal fusion devices if there is an increasing perception that PEEK devices are limited by their strength and resistance to fracture.

If we are unable to increase the productivity of our sales and marketing infrastructure we will not be able to penetrate the spinal fusion market.

We market and sell our products to surgeons and hospitals in the United States and select markets in Europe and South America using a network of independent third-party distributors who have existing surgeon relationships. We manage this distribution network through our in-house sales and marketing management team. We may also establish distribution collaborations in the United States and abroad in instances where access to a large or well-established sales and marketing organization may help to expand the market or accelerate penetration for selected products.

We cannot assure you that we will succeed in entering into and maintaining productive arrangements with an adequate number of distributors that are sufficiently committed to selling our products. The establishment of a distribution network is expensive and time consuming. As we launch new products and increase our marketing effort with respect to existing products, we will need to continue to hire, train, retain and motivate skilled independent distributors with significant technical knowledge in various areas, such as spinal fusion and total hip and knee joint replacement. In addition, the commissions we pay our distributors have increased over time, which has resulted in higher sales and marketing expenses, and those commissions and expenses may increase in the future. Furthermore, current and potential distributors may market and sell the products of our competitors. Even if the distributors market and sell our products, our competitors may be able, by offering higher commission payments or other incentives, to persuade these distributors to reduce or terminate their sales and

marketing efforts related to our products. The distributors may also help competitors solicit business from our existing customers. Some of our independent distributors account for a significant portion of our sales volume, and, if we were to lose them, our sales could be adversely affected.

Even if we engage and maintain suitable relationships with an adequate number of distributors, they may not generate revenue as quickly as we expect them to, commit the necessary resources to effectively market and sell our products, or ultimately succeed in selling our products. We have been unable to obtain meaningful market share in the interbody spinal fusion device market with our current silicon nitride products to date and we may not be successful in increasing the productivity of our sales and marketing team and distribution network to gain meaningful market share for our silicon nitride products, which could adversely affect our business and financial condition.

The orthopedic market is highly competitive and we may not be able to compete effectively against the larger, well-established companies that dominate this market or emerging and small innovative companies that may seek to obtain or increase their share of the market.

The markets for spinal fusions and total hip and knee implant products are intensely competitive, and many of our competitors are much larger and have substantially more financial and human resources than we do. Many have long histories and strong reputations within the industry, and a relatively small number of companies dominate these markets. In 2012, Medtronic, Inc.; DePuy Synthes Companies, a group of Johnson & Johnson companies; Stryker Corporation; Biomet, Inc.; Zimmer Holdings, Inc.; and Smith & Nephew plc, accounted for more than 65% of orthopedic sales worldwide.

These companies enjoy significant competitive advantages over us, including:

- broad product offerings, which address the needs of orthopedic surgeons and hospitals in a wide range of procedures;
- products that are supported by long-term clinical data;
- greater experience in, and resources for, launching, marketing, distributing and selling products, including strong sales forces and established distribution networks;
- existing relationships with spine and joint reconstruction surgeons;
- extensive intellectual property portfolios and greater resources for patent protection;
- greater financial and other resources for product research and development;
- greater experience in obtaining and maintaining FDA and other regulatory clearances and approvals for products and product enhancements;
- established manufacturing operations and contract manufacturing relationships;
- significantly greater name recognition and widely recognized trademarks; and
- established relationships with healthcare providers and payors.

Our products and any product candidates that we may introduce into the market may not enable us to overcome the competitive advantages of these large and dominant orthopedic companies. In addition, even if we successfully introduce additional product candidates incorporating our silicon nitride biomaterial into the market, emerging and small innovative companies may seek to increase their market share and they may eventually possess competitive advantages, which could adversely impact our business. Our competitors may also employ pricing strategies that could adversely affect the pricing of our products and pricing in the spinal fusion and total joint replacement market generally.

Moreover, many other companies are seeking to develop new biomaterials and products which may compete effectively against our products in terms of performance and price. For example, Smith & Nephew has developed a ceramic-coated metal, known as Oxinium, that may overcome certain of the limitations of metal joint replacement products and could directly compete with our silicon nitride and silicon nitride coated product candidates.

We have significant customer concentration, so that economic difficulties or changes in the purchasing policies or patterns of our key customers could have a significant impact on our business and operating results.

A small number of customers account for a substantial portion of our product revenues. Our customers are primarily hospitals and surgical centers. At June 30, 2013, our largest customer, Bon Secours Health System, or Bon Secours, had a receivable balance of approximately 17% of our total trade accounts receivable. In addition, Bon Secours accounted for 17% and 14% of our product revenues for the years ended December 31, 2011 and 2012, respectively, and 13% of our product revenues for the six months ended June 30, 2013. Sales of our products to our customers, including Bon Secours, are not based on long-term, committed-volume purchase contracts, and we may not continue to receive significant revenues from Bon Secours or any customer. Because of our significant customer concentration, our revenue could fluctuate significantly due to changes in economic conditions, the use of competitive products, or the loss of, reduction of business with, or less favorable terms with Bon Secours or any of our other significant customers. A significant portion of Bon Secours' purchases have been of our non-silicon nitride products, so it may be able to purchase competitive similar products from others. A reduction or delay in orders from Bon Secours or any of our other significant customers, or a delay or default in payment by any significant customer, could materially harm our business and results of operations.

The manufacturing process for our silicon nitride products is complex and requires sophisticated state-of-the-art equipment, experienced manufacturing personnel and highly specialized knowledge. If we are unable to manufacture our silicon nitride products on a timely basis consistent with our quality standards, our results of operation will be adversely impacted.

In order to control the quality, cost and availability of our silicon nitride products, we developed our own manufacturing capabilities. We operate a 30,000 square foot manufacturing facility which is certified under the ISO 13485 medical device manufacturing standard for medical devices and operates under the FDA's quality systems regulations, or QSRs. All operations with the exceptions of raw material production, cleaning, packaging and sterilization are performed at this facility.

We do not have a secondary source for the manufacture of our silicon nitride products. Our reliance solely on our internal resources to manufacture our silicon nitride products entails risks to which we would not be subject if we had secondary suppliers for their manufacture, including:

- the inability to meet our product specifications and quality requirements consistently;
- a delay or inability to procure or expand sufficient manufacturing capacity to meet additional demand for our products;
- manufacturing and product quality issues related to the scale-up of manufacturing;
- the inability to produce a sufficient supply of our products to meet product demands;
- the disruption of our manufacturing facility due to equipment failure, natural disaster or failure to retain key personnel; and
- our inability to ensure our compliance with regulations and standards of the FDA including QSRs and corresponding state and international regulatory authorities.

Any of these events could lead to a reduction in our product sales, product launch delays, failure to obtain regulatory clearance or approval or impact our ability to successfully sell our products and commercialize our products candidates. Some of these events could be the basis for adverse actions by regulatory authorities, including injunctions, recalls, seizures, or total or partial suspension of production.

We depend on a limited number of third-party suppliers for key raw materials used in the manufacturing of our silicon nitride products, and the loss of these third-party suppliers or their inability to supply us with adequate raw materials could harm our business.

We rely on a limited number of third-party suppliers for the raw materials required for the production of our silicon nitride products and product candidates. Our dependence on a limited number of third-party suppliers involves several risks, including limited control over pricing, availability, quality, and delivery schedules for raw materials. We have no supply agreements in place with any of our suppliers and cannot be certain that our current

suppliers will continue to provide us with the quantities of raw materials that we require or that satisfy our anticipated specifications and quality requirements. Any supply interruption in limited or single sourced raw materials could materially harm our ability to manufacture our products until a new source of supply, if any, could be identified and qualified. We may be unable to find a sufficient alternative supply channel within a reasonable time or on commercially reasonable terms. Any performance failure on the part of our suppliers could delay the production of our silicon nitride products and product candidates and delay the development and commercialization of our product candidates, including limiting supplies necessary for commercial sale, clinical trials and regulatory approvals, which could have a material adverse effect on our business.

Use of third-party manufacturers increases the risk that we will not have adequate supplies of our non-silicon nitride products or instrumentation sets.

The majority of our product revenue is currently generated by sales of non-silicon nitride products. Our reliance on a limited number of third-party manufacturers to supply us with our non-silicon nitride products and instruments exposes us to risks that could delay our sales, or result in higher costs or lost product revenues. In particular, our manufacturers could:

- encounter difficulties in achieving volume production, quality control and quality assurance or suffer shortages of qualified personnel, which could result in their inability to manufacture sufficient quantities of our commercially available non-silicon nitride products to meet market demand for those products, or they could experience similar problems that result in the manufacture of insufficient quantities of our non-silicon nitride product candidates; and
- fail to follow and remain in compliance with the FDA-mandated QSRs, compliance which is required for all medical devices, or fail to document their compliance to QSRs, either of which could lead to significant delays in the availability of materials for our non-silicon nitride products or instrumentation sets.

If we are unable to obtain adequate supplies of our non-silicon nitride products and related instrumentation sets that meet our specifications and quality standards, it will be difficult for us to compete effectively. We have no supply agreements in place with our manufacturers and they may change the terms of our future orders or choose not to supply us with products or instrumentation sets in the future. Furthermore, if a third-party manufacturer from whom we purchase fails to perform its obligations, we may be forced to purchase products or related instrumentation from other third-party manufacturers, which we may not be able to do on reasonable terms, if at all. In addition, if we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer or the re-verification of an existing manufacturer could negatively affect our ability to produce and distribute our non-silicon nitride products or instruments in a timely manner.

In order to be successful, we must expand our available product lines of silicon nitride-based medical devices by commercializing new product candidates, but we may not be able to do so in a timely fashion and at expected costs, or at all.

Although we are currently marketing our silicon nitride interbody spinal fusion implants, in order to be successful, we will need to expand our product lines to include other silicon nitride devices. Therefore, we are developing silicon nitride product candidates for total hip and knee replacement procedures and are exploring the application of our silicon nitride technology for other potential applications. However, we have yet to commercialize any silicon nitride products beyond our spinal fusion products. To succeed in our commercialization efforts, we must effectively continue product development and testing, obtain regulatory clearances and approvals, and enhance our sales and marketing capabilities. We may also have to write down significant inventory if existing products are replaced by new products. Because of these uncertainties, there is no assurance that we will succeed in bringing any of our current or future product candidates to market. If we fail in bringing our product candidates to market, or experience delays in doing so, we will not generate revenues as planned and will need to curtail operations or seek additional financing earlier than otherwise anticipated.

We will depend on one or more strategic partners to develop and commercialize our total joint replacement product candidates, and if our strategic partners are unable to execute effectively on our agreements with them, we may never become profitable.

Pursuant to a joint development and license agreement with Orthopaedic Synergy, Inc., or OSI, we are dependent on OSI's ability to execute product development plans, obtain regulatory approvals, and sell, distribute and market our jointly developed product candidate for total hip and total knee joint replacement implants that use our *MC*^{2} silicon nitride technology. We would similarly be reliant on other strategic partners to develop and commercialize a total hip or knee joint replacement product candidate that utilizes silicon nitride-coated components, although we have not yet entered into an agreement with any strategic partner to develop products with these silicon nitride-coated components and may be unable to do so on agreeable terms. In order to succeed in our joint commercialization efforts, we and OSI, and any future partners must execute effectively on all elements of a combined business plan, including continuing to establish sales and marketing capabilities, manage certified, validated and effective commercial-scale manufacturing operations, conduct product development and testing, and obtain regulatory clearances and approvals for our product candidate. If we or any of our strategic partners fail in any of these endeavors, or experience delays in pursuing them, we will not generate revenues as planned and will need to curtail operations or seek additional financing earlier than otherwise anticipated.

The use of physician-owned distributorships could result in increased pricing pressure on our products or harm our ability to sell our products to physicians who own or are affiliated with those distributorships and the sale of our products through such distributorships may expose us to regulatory enforcement risk.

Physician-owned distributorships, or PODs, are medical device distributors that are owned, directly or indirectly, by physicians. These physicians derive a proportion of their revenue from selling or arranging for the sale of medical devices for use in procedures they perform on their own patients at hospitals that agree to purchase from or through the POD, or that otherwise furnish ordering physicians with income that is based directly or indirectly on those orders of medical devices.

We may sell and distribute our products through a limited number of PODs. The number of PODs in the orthopedic industry may continue to grow as physicians search for ways to increase their incomes. These companies and the physicians who own, or partially own, them have significant market knowledge and access to the surgeons and hospitals that may potentially purchase our products and the physicians who own these PODs will have financial incentives to purchase from these distributorships. As a result, growth in this area may reduce our ability to compete effectively for business.

On March 26, 2013, the Department of Health and Human Services Office of Inspector General issued a Special Fraud Alert on Physician-Owned Entities and identified PODs as "inherently suspect" under the federal Anti-Kickback Statute. While the PODs themselves may be the target of any government enforcement efforts in this area, it is possible that regulatory scrutiny may extend to other entities that have relationships with PODs, including us. We are not aware that we are currently subject to any such scrutiny. However, the cost of defending such enforcement actions, if brought (even without merit), as well as any sanctions, if imposed, could have a material adverse effect on our business.

If hospitals and other healthcare providers are unable to obtain coverage or adequate reimbursement for procedures performed with our products, it is unlikely our products will be widely used.

In the United States, the commercial success of our existing products and any future products will depend, in part, on the extent to which governmental payors at the federal and state levels, including Medicare and Medicaid, private health insurers and other third-party payors provide coverage for and establish adequate reimbursement levels for procedures utilizing our products. Because we typically receive payment directly from hospitals and surgical centers, we do not anticipate relying directly on payment from third-party payors for our products. However, hospitals and other healthcare providers that purchase our orthopedic products for treatment of their patients generally rely on third-party payors to pay for all or part of the costs and fees associated with our products as part of a "bundled" rate for the associated procedures. The existence of coverage and adequate reimbursement for our products and the procedures

performed with them by government and private payors is critical to market acceptance of our existing and future products. Neither hospitals nor surgeons are likely to use our products if they do not receive adequate reimbursement for the procedures utilizing our products.

Many private payors currently base their reimbursement policies on the coverage decisions and payment amounts determined by the Centers for Medicare and Medicaid Services, or CMS, which administers the Medicare program. Others may adopt different coverage or reimbursement policies for procedures performed with our products, while some governmental programs, such as Medicaid, have reimbursement policies that vary from state to state, some of which may not pay for the procedures performed with our products in an adequate amount, if at all. A Medicare national or local coverage decision denying coverage for one or more of our products could result in private and other third-party payors also denying coverage for our products. Third-party payors also may deny reimbursement for our products if they determine that a product used in a procedure was not medically necessary, was not used in accordance with cost-effective treatment methods, as determined by the third-party payor, or was used for an unapproved use. Unfavorable coverage or reimbursement decisions by government programs or private payors underscore the uncertainty that our products face in the market and could have a material adverse effect on our business.

Many hospitals and clinics in the United States belong to group purchasing organizations, which typically incentivize their hospital members to make a relatively large proportion of purchases from a limited number of vendors of similar products that have contracted to offer discounted prices. Such contracts often include exceptions for purchasing certain innovative new technologies, however. Accordingly, the commercial success of our products may also depend to some extent on our ability to either negotiate favorable purchase contracts with key group purchasing organizations and/or persuade hospitals and clinics to purchase our product “off contract.”

The healthcare industry in the United States has experienced a trend toward cost containment as government and private payors seek to control healthcare costs by paying service providers lower rates. While it is expected that hospitals will be able to obtain coverage for procedures using our products, the level of payment available to them for such procedures may change over time. State and federal healthcare programs, such as Medicare and Medicaid, closely regulate provider payment levels and have sought to contain, and sometimes reduce, payment levels. Private payors frequently follow government payment policies and are likewise interested in controlling increases in the cost of medical care. In addition, some payors are adopting pay-for-performance programs that differentiate payments to healthcare providers based on the achievement of documented quality-of-care metrics, cost efficiencies, or patient outcomes. These programs are intended to provide incentives to providers to deliver the same or better results while consuming fewer resources. As a result of these programs, and related payor efforts to reduce payment levels, hospitals and other providers are seeking ways to reduce their costs, including the amounts they pay to medical device manufacturers. We may not be able to sell our implants profitably if third-party payors deny or discontinue coverage or reduce their levels of payment below that which we project, or if our production costs increase at a greater rate than payment levels. Adverse changes in payment rates by payors to hospitals could adversely impact our ability to market and sell our products and negatively affect our financial performance.

In international markets, medical device regulatory requirements and healthcare payment systems vary significantly from country to country, and many countries have instituted price ceilings on specific product lines. We cannot assure you that our products will be considered cost-effective by international third-party payors, that reimbursement will be available or, if available, that the third-party payors’ reimbursement policies will not adversely affect our ability to sell our products profitably. Any failure to receive regulatory or reimbursement approvals would negatively impact market acceptance of our products in any international markets in which those approvals are sought.

Prolonged negative economic conditions in domestic and international markets may adversely affect us, our suppliers, partners and consumers, and the global orthopedic market which could harm our financial position.

Global credit and financial markets have been experiencing extreme disruptions over the past several years, including severely diminished liquidity and availability of credit, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. Credit and financial markets and confidence in economic conditions might deteriorate further. Our business may be

adversely affected by the recent economic downturn and volatile business environment and continued unpredictable and unstable market conditions. In addition, there is a risk that one or more of our current suppliers may not continue to operate. Any lender that is obligated to provide funding to us under any future credit agreement with us may not be able to provide funding in a timely manner, or at all, when we require it. The cost of, or lack of, available credit or equity financing could impact our ability to develop sufficient liquidity to maintain or grow our company. These negative changes in domestic and international economic conditions or additional disruptions of either or both of the financial and credit markets may also affect third-party payors and may have a material adverse effect on our business, results of operations, financial condition and liquidity.

In addition, we believe that various demographics and industry-specific trends will help drive growth in the orthopedics markets, but these demographics and trends are uncertain. Actual demand for orthopedic products generally, and our products in particular, could be significantly less than expected if our assumptions regarding these factors prove to be incorrect or do not materialize, or if alternative treatments gain widespread acceptance.

We have a new senior management team and are dependent on our senior management team, engineering team, sales and marketing team and surgeon advisors, and the loss of any of them could harm our business.

We have recently assembled a new senior management team. They have worked together in their new positions with us for a limited time and may not be able to successfully implement our strategy. In addition, we have not entered into employment agreements, other than severance agreements, with any of the members of our senior management team. There are no assurances that the services of any of these individuals will be available to us for any specified period of time. The successful integration of our new senior management team, the loss of members of our senior management team, sales and marketing team, engineering team and key surgeon advisors, or our inability to attract or retain other qualified personnel or advisors could have a material adverse effect on our business, financial condition and results of operations.

If we experience significant disruptions in our information technology systems, our business, results of operations and financial condition could be adversely affected.

The efficient operation of our business depends on our information technology systems. We rely on our information technology systems to effectively manage our sales and marketing, accounting and financial functions; manufacturing processes; inventory; engineering and product development functions; and our research and development functions. As such, our information technology systems are vulnerable to damage or interruption including from earthquakes, fires, floods and other natural disasters; terrorist attacks and attacks by computer viruses or hackers; power losses; and computer systems, or Internet, telecommunications or data network failures. The failure of our information technology systems to perform as we anticipate or our failure to effectively implement new systems could disrupt our entire operation and could result in decreased sales, increased overhead costs, excess inventory and product shortages, all of which could have a material adverse effect on our reputation, business, results of operations and financial condition.

Risks Related to Our Capital Resources

We may require additional financing and our failure to obtain additional funding when needed could force us to delay, reduce or eliminate our product development programs or commercialization efforts.

We may require substantial future capital in order to continue to conduct the research and development and regulatory clearance and approval activities necessary to bring our products to market and to establish effective marketing and sales capabilities. Our existing capital resources and the net proceeds from this offering may not be sufficient to enable us to fund the completion of the development and commercialization of all of our product candidates. We expect that our existing capital resources, expected product revenue and the net proceeds from this offering will enable us to maintain currently planned operations at least through the next 18 months. However, our operating plan may change, and we may need additional funds sooner than anticipated to meet our operational needs and capital requirements for product development, clinical trials and commercialization.

We currently have limited committed sources of capital and we have limited liquidity. Our cash and cash equivalents as of June 30, 2013 were $1.1 million and as of December 31, 2012 were $2.7 million. In December

2012, we entered into a senior secured credit facility with General Electric Capital Corporation as agent and lender and Zions First National Bank, as lender, which is described in more detail in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus and which we refer to as the GE Secured Lending Facility. The GE Secured Lending Facility consists of a $18.0 million 30-month term loan and a $3.5 million revolving credit facility. The revolving line of credit is secured by our accounts receivable, based on certain defined criteria. We are scheduled to begin monthly repayment of the principal amount due under the term loan in January 2014. Due to the amortization of our term loan, we expect to use a substantial amount of our monthly cash flow to repay the GE Secured Lending Facility, which may restrict our ability to continue development of our product candidates. Additionally, our GE Secured Lending Facility restricts our ability to incur additional pari passu indebtedness, which may reduce our ability to seek additional financing. Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available on a timely basis, we may terminate or delay the development of one or more of our product candidates, or delay activities necessary to commercialize our product candidates.

Our future capital requirements will depend on many factors, including:

- the level of sales of our current products and the cost of revenue and sales and marketing;
- the extent of any clinical trials that we will be required to conduct in support of the regulatory clearance of our total hip and knee replacement product candidates;
- the scope, progress, results and cost of our product development efforts;
- the costs, timing and outcomes of regulatory reviews of our product candidates;
- the number and types of products we develop and commercialize;
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims; and
- the extent and scope of our general and administrative expenses.

Raising additional capital by issuing securities or through debt financings or licensing arrangements may cause dilution to existing stockholders, restrict our operations or require us to relinquish proprietary rights.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or products or grant licenses on terms that are not favorable to us. Any of these events could adversely affect our ability to achieve our product development and commercialization goals and have a material adverse effect on our business, financial condition and results of operations.

Our independent registered public accounting firm has included an explanatory paragraph relating to our ability to continue as a going concern in its report on our audited financial statements. We may be unable to continue to operate without the threat of liquidation for the foreseeable future.

Our report from our independent registered public accounting firm for the year ended December 31, 2012 includes an explanatory paragraph stating that our recurring losses from operations and net capital deficiency raise substantial doubt about our ability to continue as a going concern. If we are unable to obtain sufficient funding, our business, prospects, financial condition and results of operations will be materially and adversely affected and we may be unable to continue as a going concern. If we are unable to continue as a going concern, we may have to liquidate our assets and may receive less than the value at which those assets are carried on our consolidated financial statements, and it is likely that investors will lose all or a part of their investment. Future reports from our independent registered public accounting firm may also contain statements expressing doubt about our ability to continue as a going concern. If we seek additional financing to fund our business activities in the future and there remains doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding on commercially reasonable terms or at all.

Risks Related to Regulatory Approval of Our Products and Other Government Regulations

Our long-term success depends substantially on our ability to obtain regulatory clearance or approval and thereafter commercialize our product candidates; we cannot be certain that we will be able to do so in a timely manner or at all.

The process of obtaining regulatory clearances or approvals to market a medical device from the FDA or similar regulatory authorities outside of the United States can be costly and time consuming, and there can be no assurance that such clearances or approvals will be granted on a timely basis, or at all. The FDA's 510(k) clearance process generally takes one to six months from the date of submission, depending on whether a special or traditional 510(k) premarket notification has been submitted, but can take significantly longer. An application for premarket approval, or PMA, must be submitted to the FDA if the device cannot be cleared through the 510(k) clearance process or is not exempt from premarket review by the FDA. The PMA process almost always requires one or more clinical trials and can take two to three years from the date of filing, or even longer. In some cases, including in the case of our interbody spinal fusion devices which incorporate our $C^{S}C$ technology and our MC^{2} silicon nitride femoral head component, the FDA requires clinical data as part of the 510(k) clearance process.

It is possible that the FDA could raise questions about our spinal fusion products, our spinal fusion product candidates and our total hip and knee joint replacement product candidates and could require us to perform additional studies on our products and product candidates. Even if the FDA permits us to use the 510(k) clearance process, we cannot assure you that the FDA will not require either supporting data from laboratory tests or studies that we have not conducted, or substantial supporting clinical data. If we are unable to use the 510(k) clearance process for any of our product candidates, are required to provide clinical data or laboratory data that we do not possess to support our 510(k) premarket notifications for any of these product candidates, or otherwise experience delays in obtaining or fail to obtain regulatory clearances, the commercialization of our product candidates in the United States will be delayed or prevented, which will adversely affect our ability to generate additional revenues. It also may result in the loss of potential competitive advantages that we might otherwise attain by bringing our products to market earlier than our competitors. Additionally, although the FDA allows modifications to be made to devices that have received 510(k) clearance with supporting documentation, the FDA may disagree with our decision to modify our cleared devices without submission of a new 510(k) premarket notification, subjecting us to potential product recall, field alerts and corrective actions. Any of these contingencies could adversely affect our business.

Similar to our compliance with U.S. regulatory requirements, we must obtain and comply with international clearances and approvals in order to market and sell our products outside of the United States and we may only promote and market our products, if approved, as permitted by the applicable regulatory body.

The safety of our products is not yet supported by long-term clinical data, and they may prove to be less safe and effective than our laboratory data indicate.

We obtained FDA clearance for each of our products that we currently market, and we have sought and intend to seek CE Marking and FDA clearance or approval through the FDA's 510(k) or PMA process for our product candidates. The 510(k) clearance process is based on the FDA's agreement that a new product candidate is substantially equivalent to an already marketed product for which a PMA was not required. While most 510(k) premarket notifications do not require clinical data for clearance, the FDA may request that such data be provided. Long-term clinical data or marketing experience obtained after clearance may indicate that our products cause unexpected complications or other unforeseen negative effects. If this happens, we could be subject to the withdrawal of our marketing clearance and other enforcement sanctions by the FDA or other regulatory authority, product recalls, significant legal liability, significant negative publicity, damage to our reputation and a dramatic reduction in our ability to sell our products, any one of which would have a material adverse effect on our business, financial condition and results of operations.

We expect to be required to conduct clinical trials to support regulatory approval of some of our product candidates. We have no experience conducting clinical trials, they may proceed more slowly than anticipated, and we cannot be certain that our product candidates will be shown to be safe and effective for human use.

In order to commercialize our product candidates in the United States, we must submit a PMA for some of these product candidates, which will require us to conduct clinical trials. We also plan to provide the FDA with clinical trial data to support some of our 510(k) premarket notifications. We will receive approval or clearance from the FDA to commercialize products requiring a clinical trial only if we can demonstrate to the satisfaction of the FDA, through well-designed and properly conducted clinical trials, that our product candidates are safe and effective and otherwise meet the appropriate standards required for approval or clearance for specified indications. Clinical trials are complex, expensive, time consuming, uncertain and subject to substantial and unanticipated delays. Before we may begin clinical trials, we must submit and obtain approval for an investigational device exemption, or IDE, that describes, among other things, the manufacture of, and controls for, the device and a complete investigational plan. Clinical trials generally involve a substantial number of patients in a multi-year study. Because we do not have the experience or the infrastructure necessary to conduct clinical trials, we will have to hire one or more contract research organizations, or CROs, to conduct trials on our behalf. CRO contract negotiations may be costly and time consuming and we will rely heavily on the CRO to ensure that our trials are conducted in accordance with regulatory and industry standards. We may encounter problems with our clinical trials and any of those problems could cause us or the FDA to suspend those trials, or delay the analysis of the data derived from them.

A number of events or factors, including any of the following, could delay the completion of our clinical trials in the future and negatively impact our ability to obtain FDA approval for, and to introduce our product candidates:

- failure to obtain financing necessary to bear the cost of designing and conducting clinical trials;
- failure to obtain approval from the FDA or foreign regulatory authorities to commence investigational studies;
- conditions imposed on us by the FDA or foreign regulatory authorities regarding the scope or design of our clinical trials;
- failure to find a qualified CRO to conduct our clinical trials or to negotiate a CRO services agreement on favorable terms;
- delays in obtaining or in our maintaining required approvals from institutional review boards or other reviewing entities at clinical sites selected for participation in our clinical trials;
- insufficient supply of our product candidates or other materials necessary to conduct our clinical trials;
- difficulties in enrolling patients in our clinical trials;
- negative or inconclusive results from clinical trials, or results that are inconsistent with earlier results, that necessitate additional clinical studies;
- failure on the part of the CRO to conduct the clinical trial in accordance with regulatory requirements;
- our failure to maintain a successful relationship with the CRO or termination of our contractual relationship with the CRO before completion of the clinical trials;
- serious or unexpected side effects experienced by patients in whom our product candidates are implanted; or
- failure by any of our third-party contractors or investigators to comply with regulatory requirements or meet other contractual obligations in a timely manner.

Our clinical trials may need to be redesigned or may not be completed on schedule, if at all. Delays in our clinical trials may result in increased development costs for our product candidates, which could cause our stock price to decline and limit our ability to obtain additional financing. In addition, if one or more of our clinical trials are delayed, competitors may be able to bring products to market before we do, and the commercial viability of our product candidates could be significantly reduced.

Our current and future relationships with third-party payors and current and potential customers in the United States and elsewhere may be subject, directly or indirectly, to applicable anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm administrative burdens and diminished profits and future earnings.

Our current and future arrangements with third-party payors and current and potential customers, including providers and physicians, as well as PODs, as discussed above, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, which may constrain the business or financial arrangements and relationships through which we sell, market and distribute our products. In addition, we may be subject to transparency laws and patient privacy regulations by U.S. federal and state governments and by governments in foreign jurisdictions in which we conduct our business. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs, such as Medicare and Medicaid;
- federal civil and criminal false claims laws and civil monetary penalty laws, including the federal False Claims Act, which impose criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, including the Medicare and Medicaid programs, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose obligations on covered healthcare providers, health plans, and healthcare clearinghouses, as well as their business associates that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the Physician Payments Sunshine Act, which requires (i) manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to CMS information related to certain "payments or other transfers of value" made to physicians, which is defined to include doctors, dentists, optometrists, podiatrists and chiropractors, and teaching hospitals, with data collection beginning on August 1, 2013, (ii) applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held in such entities by physicians and their immediate family members, with data collection beginning on August 1, 2013, (iii) manufacturers to submit reports to CMS by March 31, 2014 and the 90th day of each subsequent calendar year, and (iv) disclosure of such information by CMS on a publicly available website beginning in September 2014; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; state and foreign laws that require medical device companies to comply with the medical device industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require medical device manufacturers to report information related to payments and other transfers of value to physicians and other

healthcare providers or marketing expenditures; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations may involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, including, without limitation, damages, fines, imprisonment, exclusion from participation in government healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations, which could have a material adverse effect on our business. If any of the physicians or other healthcare providers or entities with whom we expect to do business, including our collaborators, are found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from participation in government healthcare programs, which could also materially affect our business.

In July 2012, we received a subpoena from the Department of Justice seeking the production of documents, including documents related to our relationship with a particular customer and various entities, including a company distributor, and individuals associated with that distributor. In April 2013, we received a second subpoena requesting similar records. We have provided the records requested by the two subpoenas and are cooperating with the Department of Justice's investigation. While we hope to resolve this matter without incurring sanctions, if we are found to have violated one or more applicable laws, we could be subject to a variety of fines, penalties, and related administrative sanctions, and our business, financial condition and results of operations could be materially adversely affected. Responding to this investigation has been and may continue to be expensive and time-consuming.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain regulatory approval or clearance of our product candidates and affect the prices we may obtain for our products.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay clearance and/or approval of our product candidates, restrict or regulate post-clearance and post-approval activities and affect our ability to profitably sell our products and any product candidates for which we obtain marketing approval or clearance.

In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our products. Any new regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of our products. Delays in receipt of or failure to receive regulatory clearances or approvals for our new products would have a material adverse effect on our business, results of operations and financial condition. In addition, the FDA is currently evaluating the 510(k) process and may make substantial changes to industry requirements, including which devices are eligible for 510(k) clearance, the ability to rescind previously granted 510(k) clearances and additional requirements that may significantly impact the process.

Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and expanding access. In the United States, the medical device industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the ACA, a sweeping law intended, among other things, to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

Among the provisions of the ACA of importance to our products and product candidates are:

- a 2.3% medical device excise tax on certain transactions, including many U.S. sales of medical devices, which currently includes and we expect will continue to include U.S. sales of our products and products candidates that receive clearance or approval;
- expansion of healthcare fraud and abuse laws, including the False Claims Act and the Anti-Kickback Statute, and new government investigative powers and enhanced penalties for non-compliance;
- new requirements under the federal Open Payments program and its implementing regulations;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and
- creation of an independent payment advisory board that will submit recommendations to reduce Medicare spending if projected Medicare spending exceeds a specified growth rate.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. For example, on August 2, 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee on Deficit Reduction did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or ATRA, which, among other things, reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. On March 1, 2013, the President signed an executive order implementing the Budget Control Act's 2% Medicare payment reductions, and on April 1, 2013, these reductions went into effect. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on our financial operations.

We expect that the ACA, as well as other healthcare reform measures that have been and may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for our products. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may affect our ability to generate revenue and profits or commercialize our product candidates.

In the European Union and some other international markets, the government provides health care at a low cost to consumers and regulates prices of healthcare products, patient eligibility or reimbursement levels to control costs for the government-sponsored health care system. Many countries are reducing their public expenditures and we expect to see strong efforts to reduce healthcare costs in international markets, including patient access restrictions, suspensions on price increases, prospective and possibly retroactive price reductions and other recoupments and increased mandatory discounts or rebates and recoveries of past price increases. These cost control measures could reduce our revenues. In addition, certain countries set prices by reference to the prices in other countries where our products are marketed. Thus, our inability to secure adequate prices in a particular country may not only limit the marketing of our products within that country, but may also adversely affect our ability to obtain acceptable prices in other markets. This may create the opportunity for third-party cross border trade or influence our decision to sell or not to sell a product, thus adversely affecting our geographic expansion plans and revenues.

The U.S. federal medical device excise tax may materially adversely affect our business and results of operations, and we may be subject to increased taxes in other jurisdictions.

The ACA imposed a 2.3% federal medical device excise tax on the sales in the United States of most medical devices. Most if not all of our products will be subject to this tax. This excise tax became effective in 2013 and has forced, and will continue to force us to identify ways to reduce spending in other areas to offset the expected earnings impact due to the tax. We do not expect to be able to pass along the cost of this tax to hospitals, which continue to face cuts to their Medicare reimbursement due to the ACA and the recently enacted ATRA. Nor do we expect to be able to offset the cost of the tax through higher sales volumes resulting from the expansion of

health insurance coverage because of the demographics of the current uninsured population in the United States. While it is still too early to fully understand and predict the ultimate impact of the medical device tax on our business, ongoing implementation of this legislation and any similar taxes imposed in other jurisdictions could have a material adverse effect on our results of operations and cash flows.

Risks Related to Our Intellectual Property and Litigation

If the combination of patents, trade secrets and contractual provisions that we rely on to protect our intellectual property is inadequate, our ability to commercialize our orthopedic products successfully will be harmed, and we may not be able to operate our business profitably.

Our success depends significantly on our ability to protect our proprietary rights to the technologies incorporated in our products. We currently have 34 issued U.S. patents, 38 pending U.S. patent applications, 11 granted foreign patents and 18 pending foreign patent applications. Our issued patents begin to expire in 2014, with the last of these patents expiring in 2031. We rely on a combination of patent protection, trade secret laws and nondisclosure, confidentiality and other contractual restrictions to protect our proprietary technology. However, these may not adequately protect our rights or permit us to gain or keep any competitive advantage.

The issuance of a patent is not conclusive as to its scope, validity or enforceability. The scope, validity or enforceability of our issued patents can be challenged in litigation or proceedings before the U.S. Patent and Trademark Office, or the USPTO, or foreign patent offices. In addition, our pending patent applications include claims to numerous important aspects of our products under development that are not currently protected by any of our issued patents. We cannot assure you that any of our pending patent applications will result in the issuance of patents to us. The USPTO or foreign patent offices may deny or require significant narrowing of claims in our pending patent applications. Patents issued as a result of the pending patent applications, if any, may not provide us with significant commercial protection or be issued in a form that is advantageous to us. Proceedings before the USPTO or foreign patent offices could result in adverse decisions as to the priority of our inventions and the narrowing or invalidation of claims in issued patents. The laws of some foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States, if at all.

Our competitors may successfully challenge and invalidate or render unenforceable our issued patents, including any patents that may issue in the future, which could prevent or limit our ability to market our products and could limit our ability to stop competitors from marketing products that are substantially equivalent to ours. In addition, competitors may be able to design around our patents or develop products that provide outcomes that are comparable to our products but that are not covered by our patents.

We have also entered into confidentiality and assignment of intellectual property agreements with all of our employees, consultants and advisors as one of the ways we seek to protect our intellectual property and other proprietary technology. However, these agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements.

In the event a competitor infringes upon any of our patents or other intellectual property rights, enforcing our rights may be difficult, time consuming and expensive, and would divert management's attention from managing our business. There can be no assurance that we will be successful on the merits in any enforcement effort. In addition, we may not have sufficient resources to litigate, enforce or defend our intellectual property rights.

We have no patent protection covering our solid *MC²* silicon nitride or the process we use for manufacturing our *MC²* silicon nitride, and competitors may create silicon nitride formulations substantially similar to ours, provided they do not violate our issued patents, which could significantly diminish the effect of any competitive advantages that we might otherwise have had.

While we have four U.S. patents, one European patent, and related pending applications directed to articulating implants using our high-strength, high toughness solid *MC²* silicon nitride, we have no patent protection either for the composition of our formulation of silicon nitride or for the process of manufacturing *MC²* silicon nitride or our *MC²* silicon nitride products. Although we have, and will continue to develop, significant know-how

related to these processes, there can be no assurance that we will be able to maintain this know-how as trade secrets, and competitors may develop or acquire equally valuable or more valuable know-how related to the manufacture of silicon nitride products. Further, if any of our competitors is able to obtain patent protection for its composition of silicon nitride or for its process for manufacturing silicon nitride, we could become subject to patent infringement claims and further be prevented from continuing the manufacture of our silicon nitride based products.

We could become subject to intellectual property litigation that could be costly, result in the diversion of management's time and efforts, require us to pay damages, prevent us from marketing our commercially available products or product candidates and/or reduce the margins we may realize from our products that we may commercialize.

The medical devices industry is characterized by extensive litigation and administrative proceedings over patent and other intellectual property rights. Whether a product infringes a patent involves complex legal and factual issues, and the determination is often uncertain. There may be existing patents of which we are unaware that our products under development may inadvertently infringe. The likelihood that patent infringement claims may be brought against us increases as the number of participants in the orthopedic market increases and as we achieve more visibility in the market place and introduce products to market.

Any infringement claim against us, even if without merit, may cause us to incur substantial costs, and would place a significant strain on our financial resources, divert the attention of management from our core business, and harm our reputation. In some cases, litigation may be threatened or brought by a patent holding company or other adverse patent owner who has no relevant product revenues and against whom our patents may provide little or no deterrence. If we were found to infringe any patents, we could be required to pay substantial damages, including triple damages if an infringement is found to be willful, and royalties and could be prevented from selling our products unless we obtain a license or are able to redesign our products to avoid infringement. We may not be able to obtain a license enabling us to sell our products on reasonable terms, or at all, and there can be no assurance that we would be able to redesign our products in a way that would not infringe those patents. If we fail to obtain any required licenses or make any necessary changes to our technologies or the products that incorporate them, we may be unable to commercialize one or more of our products or may have to withdraw products from the market, all of which would have a material adverse effect on our business, financial condition and results of operations.

In addition, in order to further our product development efforts, we have entered into agreements with orthopedic surgeons to help us design and develop new products, and we expect to enter into similar agreements in the future. In certain instances, we have agreed to pay such surgeons royalties on sales of products which incorporate their product development contributions. There can be no assurance that surgeons with whom we have entered into such arrangements will not claim to be entitled to a royalty even if we do not believe that such products were developed by cooperative involvement between us and such surgeons. In addition, some of our surgeon advisors are employed by academic or medical institutions or have agreements with other orthopedic companies pursuant to which they have agreed to assign or are under an obligation to assign to those other companies or institutions their rights in inventions which they conceive or develop, or help conceive or develop.

There can be no assurance that one or more of these orthopedic companies or institutions will not claim ownership rights to an invention we develop in collaboration with our surgeon advisors or consultants on the basis that an agreement with such orthopedic company or institution gives it ownership rights in the invention or that our surgeon advisors on consultants otherwise have an obligation to assign such inventions to such company or institution. Any such claim against us, even without merit, may cause us to incur substantial costs, and would place a significant strain on our financial resources, divert the attention of management from our core business and harm our reputation.

We may be subject to damages resulting from claims that we, our employees, or our independent sales agencies have wrongfully used or disclosed alleged trade secrets of our competitors or are in breach of non-competition agreements with our competitors or non-solicitation agreements.

Many of our employees were previously employed at other orthopedic companies, including our competitors and potential competitors. Many of our distributors and potential distributors sell, or in the past have sold, products of our competitors. We may be subject to claims that either we, or these employees or distributors, have inadvertently or otherwise used or disclosed the trade secrets or other proprietary information of our competitors. In addition, we have been and may in the future be subject to claims that we caused an employee or sales agent to break the terms of his or her non-competition agreement or non-solicitation agreement. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. If we fail in defending such claims, in addition to paying money damages, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could hamper or prevent our ability to commercialize products, which could have an adverse effect on our business, financial condition and results of operations.

If our silicon nitride products or our product candidates conflict with the rights of others, we may not be able to manufacture or market our products or product candidates, which could have a material and adverse effect on us.

Our commercial success will depend in part on not infringing the patents or violating the other proprietary rights of third parties. Issued patents held by others may limit our ability to develop commercial products. All issued patents are entitled to a presumption of validity under the laws of the United States. If we need suitable licenses to such patents to permit us to develop or market our product candidates, we may be required to pay significant fees or royalties and we cannot be certain that we would even be able to obtain such licenses. Competitors or third parties may obtain patents that may cover subject matter we use in developing the technology required to bring our products to market, that we use in producing our products, or that we use in treating patients with our products. We know that others have filed patent applications in various jurisdictions that relate to several areas in which we are developing products. Some of these patent applications have already resulted in patents and some are still pending. If we were found to infringe any of these issued patents or any of the pending patent applications, when and if issued, we may be required to alter our processes or product candidates, pay licensing fees or cease activities. If use of technology incorporated into or used to produce our product candidates is challenged, or if our processes or product candidates conflict with patent rights of others, third parties could bring legal actions against us, in Europe, the United States and elsewhere, claiming damages and seeking to enjoin manufacturing and marketing of the affected products. Additionally, it is not possible to predict with certainty what patent claims may issue from pending applications. In the United States, for example, patent prosecution can proceed in secret prior to issuance of a patent, provided such application is not filed in foreign jurisdiction. For U.S. patent applications that are also filed in foreign jurisdictions, such patent applications will not publish until 18 months from the filing date of the application. As a result, third parties may be able to obtain patents with claims relating to our product candidates which they could attempt to assert against us. Further, as we develop our products, third parties may assert that we infringe the patents currently held or licensed by them, and we cannot predict the outcome of any such action.

There has been extensive litigation in the medical devices industry over patents and other proprietary rights. If we become involved in any litigation, it could consume a substantial portion of our resources, regardless of the outcome of the litigation. If these legal actions are successful, in addition to any potential liability for damages, we could be required to obtain a license, grant cross-licenses and pay substantial royalties in order to continue to manufacture or market the affected products.

We cannot assure you that we would prevail in any legal action or that any license required under a third party patent would be made available on acceptable terms, or at all. Ultimately, we could be prevented from commercializing a product, or forced to cease some aspect of our business operations, as a result of claims of patent infringement or violation of other intellectual property rights, which could have a material and adverse effect on our business, financial condition and results of operations.

Risks Related to Potential Litigation from Operating Our Business

We may become subject to potential product liability claims, and we may be required to pay damages that exceed our insurance coverage.

Our business exposes us to potential product liability claims that are inherent in the design, testing, manufacture, sale and distribution of our currently marketed products and each of our product candidates that we are seeking to introduce to the market. The use of orthopedic medical devices can involve significant risks of serious complications, including bleeding, nerve injury, paralysis, infection, and even death. Any product liability claim brought against us, with or without merit, could result in the increase of our product liability insurance rates or in our inability to secure coverage in the future on commercially reasonable terms, if at all. In addition, if our product liability insurance proves to be inadequate to pay a damage award, we may have to pay the excess of this award out of our cash reserves, which could significantly harm our financial condition. If longer-term patient results and experience indicate that our products or any component of a product causes tissue damage, motor impairment or other adverse effects, we could be subject to significant liability. A product liability claim, even one without merit, could harm our reputation in the industry, lead to significant legal fees, and result in the diversion of management's attention from managing our business.

We were recently a defendant in a lawsuit brought by our former CEO, Ben R. Shappley, related to breach of contract claims under his employment agreement. If Mr. Shappley successfully appeals the case, it could have a significant negative impact on our business, financial condition and results of operations.

In April 2013, we defended ourselves against a lawsuit that was brought by our former CEO, Ben R. Shappley, in the United States District Court for the District of Utah. Following his termination in November 2011, Mr. Shappley sought to enforce the terms of an employment agreement with us and alleged that his services were terminated without cause and therefore sought approximately $1.5 million under the terms of the employment agreement plus his attorneys' fees. On September 5, 2013, the District Court issued findings of fact and conclusions of law and found that Mr. Shappley was terminated for cause, and as such requires Mr. Shappley to pay to us the cost of our reasonable attorneys' fees related to the defense of this lawsuit, except for costs associated with our affirmative defense of resume fraud against him. Under the judge's ruling, we are however required to pay to Mr. Shappley $13,750, which represents a pro rata bonus of $15,000 per year of service under the terms of his employment agreement. Mr. Shappley has up to thirty days from the date of the ruling to appeal the District Court's decision. If Mr. Shappley appeals this ruling, we could incur significant expense and could be subject to significant management distraction in opposing his appeal, regardless of the merits. If Mr. Shappley were to be successful upon appeal, an adverse ruling in this litigation could have a significant negative impact on our business, financial condition and results of operations.

Any claims relating to our improper handling, storage or disposal of biological or hazardous materials could be time consuming and costly.

Although we do not believe that the manufacture of our silicon nitride or non-silicon nitride products will involve the use of hazardous materials, it is possible that regulatory authorities may disagree or that changes to our manufacturing processes may result in such use. Our business and facilities and those of our suppliers and future suppliers may therefore be subject to foreign, federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of hazardous materials and waste products. We may incur significant expenses in the future relating to any failure to comply with environmental laws. Any such future expenses or liability could have a significant negative impact on our business, financial condition and results of operations.

Risks Related to Our GE Secured Lending Facility

If we do not adhere to the financial covenants set forth in our GE Secured Lending Facility, we will be in default of our GE Secured Lending Facility.

The GE Secured Lending Facility includes certain financial covenants including a requirement that the average time that it takes us to collect on any amounts due to us from any customers not exceed 85 days for any calendar month, as well as a liquidity covenant. We were not in compliance with all of the financial covenants as of

June 30, 2013 and we received waivers from the lenders to avoid an event of default. If not waived by the lenders, failure to timely satisfy these covenants in the future will constitute an event of default under the credit facility agreement, which would entitle the lenders to exercise all of their rights and remedies under that agreement and otherwise available to them, including foreclosure of all of our intellectual property and other assets and potentially require us to renegotiate our agreement on terms less favorable to us or to immediately cease operations. We may have difficulty obtaining additional debt financing, due to the restrictions in the GE Secured Lending Facility. Even if we are successful in obtaining additional financing, the terms of such additional debt could further restrict our operating and financial flexibility. Further, if we are liquidated, the lenders' right to repayment would be senior to the rights of the holders of our common stock to receive any proceeds from the liquidation. The agent could declare a default under the GE Secured Lending Facility upon the occurrence of a material adverse effect, as defined under the loan agreement, thereby requiring us to either repay the outstanding indebtedness immediately or attempt to reverse the declaration of default through negotiation or litigation. Any declaration by the agent of an event of default could significantly harm our business and prospects and could cause the price of our common shares to decline.

Risks Related to Our Common Stock and this Offering

There has been no prior public market for our common stock and an active trading market may not develop.

Prior to this offering, there has been no public market for our common stock. We cannot predict the extent to which investor interest in our company will lead to the development of an active trading market on The NASDAQ Global Market or otherwise or how liquid that market might become. The lack of an active market may impair the value of your shares and your ability to sell your shares at the time you wish to sell them. An inactive market may also impair our ability to raise capital by selling our common stock and may impair our ability to acquire other companies, products or technologies by using our common stock as consideration.

We expect that the price of our common stock will fluctuate substantially and you may not be able to sell your shares at or above the offering price.

You should consider an investment in our common stock risky and invest only if you can withstand a significant loss and wide fluctuations in the market value of your investment. The initial public offering price for the shares of our common stock sold in this offering will be determined by negotiation between us and the underwriters and will be based on several factors. This price may not reflect the market price of our common stock following this offering. You may be unable to sell your shares of common stock at or above the initial public offering price due to fluctuations in the market price of our common stock arising from changes in our operating performance or prospects. In addition, the volatility of orthopedic company stocks often does not correlate to the operating performance of the companies represented by such stocks. Some of the factors that may cause the market price of our common stock to fluctuate include:

- our ability to sell our current products and the cost of revenue;
- our ability to develop, obtain regulatory clearances or approvals for, and market new and enhanced product candidates on a timely basis;
- changes in governmental regulations or in the status of our regulatory approvals, clearances or future applications;
- our announcements or our competitors' announcements regarding new products, product enhancements, significant contracts, number and productivity of distributors, number of hospitals and surgeons using products, acquisitions or strategic investments;
- announcements of technological or medical innovations for the treatment of orthopedic pathology;
- delays or other problems with the manufacturing of our products, product candidates and related instrumentation;
- volume and timing of orders for our products and our product candidates, if and when commercialized;
- changes in the availability of third-party reimbursement in the United States and other countries;
- quarterly variations in our or our competitors' results of operations;

- changes in earnings estimates or recommendations by securities analysts, if any, who cover our common stock;
- failure to meet estimates or recommendations by securities analysts, if any, who cover our stock;
- changes in the fair value of our common stock warrant liability resulting from changes in the market price of our common stock, which may result in significant fluctuations in our quarterly and annual operating results;
- changes in healthcare policy in the United States and internationally;
- product liability claims or other litigation involving us;
- sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders;
- disputes or other developments with respect to intellectual property rights;
- changes in accounting principles;
- changes to tax policy; and
- general market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, in the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the company that issued the stock. If our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit regardless of the merits of the case or the eventual outcome. Such a lawsuit also would divert the time and attention of our management.

Securities analysts may not initiate coverage of our common stock or may issue negative reports, which may have a negative impact on the market price of our common stock.

Securities analysts may elect not to provide research coverage of our common stock after the completion of this offering. If securities analysts do not cover our common stock after the completion of this offering, the lack of research coverage may cause the market price of our common stock to decline. The trading market for our common stock may be affected in part by the research and reports that industry or financial analysts publish about our business. If one or more of the analysts who elect to cover us downgrade our stock, our stock price would likely decline rapidly. If one or more of these analysts cease coverage of us, we could lose visibility in the market, which in turn could cause our stock price to decline. In addition, under the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and a global settlement among the Securities and Exchange Commission, or the SEC, other regulatory agencies and a number of investment banks, which was reached in 2003, many investment banking firms are required to contract with independent financial analysts for their stock research. It may be difficult for a company such as ours, with a smaller market capitalization, to attract independent financial analysts that will cover our common stock. This could have a negative effect on the market price of our stock.

If our executive officers, directors and principal stockholders choose to act together, they will be able to exert significant influence over us and our significant corporate decisions and may act in a manner that advances their best interests and not necessarily those of other stockholders.

Upon completion of this offering, our executive officers, directors, and beneficial owners of 5% or more of our outstanding common stock and their affiliates will beneficially own approximately % of our outstanding common stock, or approximately % if the underwriters' option to purchase additional shares is exercised in full. As a result, these persons, acting together, will have the ability to significantly influence the outcome of all matters requiring stockholder approval, including the election and removal of directors and any merger, consolidation, or sale of all or substantially all of our assets, and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including investors in this offering, by among other things:

- delaying, deferring or preventing a change in control of us;
- entrenching our management and/or our board of directors;
- impeding a merger, consolidation, takeover or other business combination involving us;

- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us; or
- causing us to enter into transactions or agreements that are not in the best interests of all stockholders.

Future sales of our common stock in the public market after this offering may cause our stock price to decline and impair our ability to raise future capital through the sale of our equity securities.

Upon completion of this offering, our current stockholders will hold a substantial number of shares of our common stock that they will be able to sell in the public market in the near future. Sales by our current stockholders of a substantial number of shares after this offering could significantly reduce the market price of our common stock. Moreover, following the completion of this offering, the holders of shares of common stock, assuming the conversion of our convertible preferred stock, and holders of warrants to purchase shares of common stock, assuming the conversion of preferred stock warrants into common stock warrants, will have rights, subject to some conditions, to require us to include their shares in registration statements that we may file for ourselves or other stockholders. These shares of common stock, totaling shares, assuming the exercise of the common stock warrants, represent approximately % of the total number of shares of our common stock to be outstanding immediately after this offering, assuming conversion of the preferred stock warrants but no exercise of the underwriters' option to purchase additional shares. Please see the "Description of Capital Stock—Registration Rights" section of this prospectus for a description of the registration rights of these stockholders. In addition, immediately upon completion of this offering, warrants to acquire approximately shares of our common stock and shares of our outstanding common stock then held by existing stockholders which are deemed to be "restricted securities" pursuant to Rule 144 under the Securities Act of 1933, as amended, or the Securities Act, will be eligible for sale in reliance on Rule 144, subject to the lock-up agreements described in the "Underwriting" section of this prospectus. Upon completion of this offering, a holder of warrants to acquire shares of our common stock will be able to net exercise such warrants by surrendering a portion of that holder's warrants as payment of the exercise price rather than paying the exercise price in cash. As of June 30, 2013, holders of warrants to acquire approximately shares of our common stock would be eligible to rely on Rule 144 for the resale of such shares if the warrants are net exercised, subject to the lock-up agreements described in the "Underwriting" section of this prospectus.

Following the completion of this offering, we also intend to register all shares of our common stock that we may issue pursuant to the 2003 Plan and the 2012 Plan. Shares issued by us upon exercise of options granted under our stock plans would be eligible for sale in the public market upon the effective date of the registration statement for those shares, subject to the lock-up agreements described in the "Underwriting" section of this prospectus. If any of these holders cause a large number of securities to be sold in the public market, the sales could reduce the trading price of our common stock. These sales also could impede our ability to raise future capital. Please see the "Shares Eligible for Future Sale" section of this prospectus for a description of sales that may occur in the future.

Our management team may allocate the proceeds of this offering in ways in which you may not agree.

We intend to use the net proceeds from this offering to continue to increase market awareness of our silicon nitride spinal products, continue to implement our sales and marketing strategy, enhance our commercial infrastructure and commercialize our silicon nitride joint replacement components and other products. For a further description of our intended use of net proceeds of this offering, please see the "Use of Proceeds" section of this prospectus.

Because of the number and variability of factors that will determine our use of the net proceeds from this offering, our ultimate use of these proceeds may vary substantially from their currently intended use. Our management will have considerable discretion over the use of the net proceeds of this offering. Stockholders may not agree with such uses, and our use of the net proceeds may be used in a manner that does not increase our operating results or market value.

Anti-takeover provisions in our organizational documents and Delaware law may discourage or prevent a change of control, even if an acquisition would be beneficial to our stockholders, which could affect our stock price adversely and prevent attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the completion of this offering contain provisions that could discourage, delay or prevent a merger, acquisition or other change of control of our company or changes in our board of directors that our stockholders might consider favorable, including transactions in which you might receive a premium for your shares. These provisions also could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. Stockholders who wish to participate in these transactions may not have the opportunity to do so. Furthermore, these provisions could prevent or frustrate attempts by our stockholders to replace or remove management. These provisions:

- allow the authorized number of directors to be changed only by resolution of our board of directors;
- provide for a classified board of directors, such that not all members of our board will be elected at one time;
- prohibit our stockholders from filling board vacancies, limit who may call stockholder meetings, and prohibit the taking of stockholder action by written consent;
- prohibit our stockholders from making certain changes to our amended and restated certificate of incorporation or amended and restated bylaws except with the approval of holders of 75% of the outstanding shares of our capital stock entitled to vote;
- require advance written notice of stockholder proposals that can be acted upon at stockholders meetings and of director nominations to our board of directors; and
- authorize our board of directors to create and issue, without prior stockholder approval, preferred stock that may have rights senior to those of our common stock and that, if issued, could operate as a "poison pill" to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that is not approved by our board of directors.

In addition, we are subject to the provisions of Section 203 of the Delaware General Corporation Law, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

Investors in this offering will pay a much higher price than the book value of our common stock and, therefore, you will incur immediate and substantial dilution of your investment.

If you purchase common stock in this offering, you will pay more for your shares than the amounts paid by existing stockholders for their shares. You will incur immediate and substantial dilution of $ per share, representing the difference between the initial public offering price per share of our common stock and our pro forma net tangible book value per share after giving effect to this offering based on an assumed initial public offering price of $ per share of our common stock, which is the midpoint of the price range set forth on the cover of this prospectus. In the past, we have also issued options and warrants to acquire common stock at prices significantly below the assumed initial public offering price. To the extent these outstanding options and warrants are ultimately exercised, you will sustain further dilution. For a further description of the dilution you will incur in this offering, see the "Dilution" section of this prospectus.

We do not intend to pay cash dividends.

We have never declared or paid cash dividends on our capital stock and we do not anticipate paying any cash dividends in the foreseeable future. We currently intend to retain all available funds and any future earnings for debt service and use in the operation and expansion of our business. The GE Secured Lending Facility also contains a negative covenant which prohibits us from paying dividends to our stockholders without the prior written consent of the lenders. In addition, the terms of any future debt or credit facility may preclude us from paying any dividends.

Risks Related to Public Companies

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012 and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including (1) not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, (2) reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements and (3) exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. In addition, as an emerging growth company, we have only included two years, rather than the customary three, of audited financial statements and two years, rather than the customary five, of selected financial data in this prospectus. Additionally, under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We are electing to delay such adoption of new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. As a result of this election, our financial statements may not be comparable to the financial statements of other public companies.

We may take advantage of these exemptions until we are no longer an emerging growth company. Under the JOBS Act, we may be able to maintain emerging growth company status for up to five years, although circumstances could cause us to lose that status earlier, including if the market value of our common stock held by non-affiliates exceeds $700 million as of any June 30 before the end of such five-year period or if we have total annual gross revenue of $1.0 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the following December 31. Additionally, if we issue more than $1.0 billion in non-convertible debt during any three-year period before that time, we would cease to be an emerging growth company immediately. Even after we no longer qualify as an emerging growth company, we may still qualify as a “smaller reporting company,” which would allow us to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We cannot predict whether investors will find our common stock less attractive because of our reliance on any of these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We will incur increased costs as a result of being a public company and our management expects to devote substantial time to public company compliance programs.

As a public company, we will incur significant legal, insurance, accounting and other expenses that we did not incur as a private company. In addition, our administrative staff will be required to perform additional tasks. For example, in anticipation of becoming a public company, we will need to adopt additional internal controls and disclosure controls and procedures, broaden the scope of services provided to us by our transfer agent, adopt an insider trading policy and bear all of the internal and external costs of preparing and distributing periodic public reports in compliance with our obligations under the securities laws. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment will result in increased general and administrative expenses and may divert management’s time and attention from product development and commercialization activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, regulatory authorities may initiate legal proceedings against us, and our business may be harmed. In addition, if we are unable to continue to meet these requirements, we may not be able to maintain the listing of our common stock on The NASDAQ Global Market, which would likely have a material adverse effect on the trading price of our common stock.

In connection with this offering, we are increasing our directors' and officers' insurance coverage, which will increase our insurance cost. In the future, it will be more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified executive officers and qualified members of our board of directors, particularly to serve on our audit and compensation committees.

Our internal control over financial reporting does not currently meet the standards required by Section 404 of the Sarbanes-Oxley Act, and failure to achieve and maintain effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act could result in material misstatements of our annual or interim financial statements and have a material adverse effect on our business and share price.

We are not currently required to comply with the SEC's rules that implement Section 404 of the Sarbanes-Oxley Act, and are therefore not yet required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. Upon becoming a public company, we will however be required to comply with certain of these rules, which will require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of our internal control over financial reporting commencing with our second annual report. This assessment will need to include the disclosure of any material weaknesses or significant deficiencies in our internal control over financial reporting identified by our management or our independent registered public accounting firm. A "material weakness" is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. A "significant deficiency" is a deficiency, or a combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of our financial reporting, including the audit committee of the board of directors.

Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of our second annual report or the first annual report required to be filed with the Commission following the date we are no longer an "emerging growth company" as defined in the JOBS Act. However, in connection with our audit for the year ended December 31, 2012 and their review of our June 30, 2013 financial statements, our independent registered public accounting firm noted four material weaknesses and one significant deficiency in our internal control over financial reporting.

One material weakness related to our improper recording and disclosure of non-routine transactions due to deficiencies in the design and operation of our controls to account for non-routine transactions as part of the financial close process. We plan to remedy this by increasing the size and expertise of our internal accounting team.

Another material weakness was identified related to the deficiency in the design and operation of our controls to account for inventory. In addition to increasing the size and expertise of our accounting team, we plan to address this deficiency by physically counting inventory held by certain of our distributors on a more frequent basis and monitoring more closely the movement of inventory between locations.

The third material weakness related to deficiencies in our income tax accounting. We intend to implement a formal process for accounting for income taxes, including evaluating the tax treatment of certain transactions on permanent and temporary book/tax differences, and the effect on the income tax provision and related deferred tax accounting balances.

The fourth material weakness relates to deficiencies in the design and operation of our controls to appropriately identify and evaluate transactions for appropriate cut-off at the end of the financial reporting period and the level of precision and timeliness of our financial close process. We plan to remedy this by implementing a formal financial close process related to financial reporting.

Additionally, our independent registered public accounting firm identified a significant deficiency related to the design and operation of our controls to manage the safeguarding of assets, particularly our instruments that we provide to surgeons and hospitals on consignment. We plan to implement a formal process for tracking and monitoring fixed assets as they are deployed for use at various locations.

We cannot assure you that our plans will sufficiently address the identified deficiencies, nor can we assure you that there will not be material weaknesses or significant deficiencies in our internal controls in the future. Additionally, in the event that our internal control over financial reporting is perceived as inadequate, or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results and the trading price of our common stock could decline.

Finally, as a private company, we have not previously been required to prepare quarterly financial statements, nor have we been required to generate financial statements in the time periods mandated for public companies by the Commission's reporting requirements. We believe that we will need to expand our accounting resources, including the size and expertise of our internal accounting team, to effectively execute a quarterly close process and on an appropriate time frame for a public company. If we are unsuccessful or unable to sufficiently expand these resources, we may not be able to produce U.S. GAAP-compliant financial statements on a time frame required to comply with our reporting requirements under the Exchange Act, and the financial statements we produce may contain material misstatements, either of which could cause investors to lose confidence in our financial reports and our financial reporting generally, which could lead to a material decline in the trading price of our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to us. The forward-looking statements are contained principally in, but not limited to, the sections entitled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our ability to achieve sufficient market acceptance of any of our products or product candidates;
- our perception of the growth in the size of the potential market for our products and product candidates;
- our estimate of the advantages of our silicon nitride technology platform;
- our ability to become a profitable biomaterial technology company;
- our ability to satisfy the covenants made in the GE Secured Lending Facility;
- our ability to favorably resolve pending litigation;
- our ability to succeed in obtaining FDA clearance or approvals for our product candidates;
- our ability to receive CE Marks for our product candidates;
- the timing, costs and other limitations involved in obtaining regulatory clearance or approval for any of our product candidates and product candidates and, thereafter, continued compliance with governmental regulation of our existing products and activities;
- our ability to protect our intellectual property and operate our business without infringing upon the intellectual property rights of others;
- our ability to obtain sufficient quantities and satisfactory quality of raw materials to meet our manufacturing needs;
- the availability of adequate coverage reimbursement from third-party payors in the United States;
- our estimates regarding anticipated operating losses, future product revenue, expenses, capital requirements and liquidity;
- our estimates regarding our needs for additional financing and our ability to obtain such additional financing on suitable terms;
- our ability to maintain and continue to develop our sales and marketing infrastructure;
- our ability to enter into and maintain suitable arrangements with an adequate number of distributors;
- our manufacturing capacity to meet future demand;
- our ability to develop effective and cost efficient manufacturing processes for our products;
- our reliance on third parties to supply us with raw materials and our non-silicon nitride products and instruments;
- the safety and efficacy of products and product candidates;
- the timing of and our ability to conduct clinical trials;
- the use of the proceeds of this offering;
- potential changes to the healthcare delivery systems and payment methods in the United States or internationally;
- any potential requirement by regulatory agencies that we restructure our relationships with referring surgeons;
- our ability to develop and maintain relationships with surgeons, hospitals and marketers of our products; and
- our ability to attract and retain a qualified management team, engineering team, sales and marketing team, distribution team, design surgeons, surgeon advisors and other qualified personnel and advisors.

In some cases, you can identify forward-looking statements by terms such as "may," "could," "will," "should," "would," "expect," "plan," "intend," "anticipate," "believe," "estimate," "predict," "potential," "project" or "continue" or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could

materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under the heading “Risk Factors” and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements.

Any forward-looking statement in this prospectus reflects our current views with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Except as required by law, we assume no obligation to publicly update or revise any forward-looking statements contained in this prospectus, whether as a result of new information, future events or otherwise. The Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933, as amended, or the Securities Act, do not protect any forward-looking statements that we make in connection with this offering.

USE OF PROCEEDS

We estimate that we will receive approximately $ million in net proceeds from the sale of shares of common stock that we are offering, or approximately $ million if the underwriters exercise their option to purchase additional shares in full, based upon the assumed initial public offering price of $ per share, the midpoint of the range on the front cover of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A $1.00 per share increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the net proceeds to us from this offering by $ million, or approximately million if the underwriters exercise their option to purchase additional shares in full, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The primary purposes of this offering are to create a public market for our common stock and thereby enable future access to the public equity markets by us and our stockholders and to obtain additional capital. We currently intend to use the net proceeds received by us from this offering in the following manner:

- up to $ to continue to build sales, marketing and distribution capabilities for our silicon nitride technology platform, including the costs of inventory and instruments;
- up to $ to fund research and development and commercialization activities of our product candidates, including the funding of clinical trials we plan to conduct for our product candidates; and
- up to $ to support working capital needs and other general corporate purposes, including debt service under our existing GE Secured Lending Facility.

The GE Secured Lending Facility, which consists of a $18.0 million term loan and a $3.5 million revolving credit facility with General Electric Capital Corporation, as agent and lender, and Zions First National Bank, as lender. As of June 30, 2013, the total outstanding principal and accrued interest under GE Secured Lending Facility was $19.3 million. The term loan due 2016 consists of interest only payments until January 1, 2014 after which interest payments as well as monthly principal payments of approximately $600,000 each are required for a period of 30 months with an additional $720,000 repayment fee due upon prepayment in full or upon scheduled maturity and bears an interest rate of 7.5% annually. The revolving note due 2016 bears an interest rate of 5.5% plus the higher of (i) 1.5% and (ii) the three-month LIBOR, determined as of two London business days divided by a number equal to 1.0 minus the aggregate of the rates of reserve requirements on the day that is two London business days prior to the beginning of the interest period for Eurocurrency funding that are required to be maintained by a member bank of the Federal Reserve System which resulted in an interest rate of 7.0% at June 30, 2013. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Indebtedness” for a further description of these financing arrangements.

We cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of the offering. The amount and timing of our actual expenditures may vary significantly depending upon numerous factors, including the ultimate resolution of our FDA submissions for clearances or approvals of our product candidates, the specific clinical trial requirements imposed for market approval of our product candidates, our revenues, operating costs and capital expenditures. and other factors described under “Risk Factors.” We may find it necessary or advisable to use the net proceeds for other purposes, and our management will retain broad discretion in the allocation of the net proceeds from this offering.

Pending use of our net proceeds from this offering, we plan to invest the proceeds in a variety of capital preservation investments, including investment-grade, interest-bearing instruments. We cannot predict whether the net proceeds will yield a favorable return.

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DIVIDEND POLICY

We have never paid or declared any cash dividends on our common stock, and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. We intend to retain all available funds and any future earnings to fund the development and expansion of our business. In addition, the credit facility we intend to repay with the net proceeds of the offering prohibits us from paying cash dividends on our common stock. Additionally, in connection with the GE Secured Lending Facility, we issued certain warrants to the lenders which are further described under "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources." Pursuant to the terms of the warrants, if we issue dividends to our stockholders which are payable in shares of our preferred stock, we will be required to lower the exercise price of the warrants or pay a proportionate share of any dividend distribution to the warrant holders upon exercise.

CAPITALIZATION

The table below reflects our unaudited capitalization as of June 30, 2013:

- on an actual basis;
- on a pro forma basis giving effect to (a) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock upon the completion of this offering, and (b) the conversion of all outstanding warrants exercisable for shares of our convertible preferred stock into warrants exercisable for a total of shares of common stock (but not assuming the exercise of these common stock warrants), upon completion of this offering and the related reclassification of the preferred stock warrant liability to additional paid in capital; and
- on a pro forma basis, as adjusted to give effect to the sale of shares of common stock in this offering at an assumed initial public offering price of $ per share (the mid-point of the price range on the front cover of this prospectus) after deducting estimated underwriting discounts and commissions and estimated offering expenses.

You should read this table together with "Selected Consolidated Financial Data," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes appearing elsewhere in this prospectus.

	As of June 30, 2013 (unaudited) (in thousands, except share and per share data)		
	Actual	Pro Forma	Pro Forma as Adjusted
Long-term debt (net of current)	$ 14,309	$	$
Common stock warrant liability	3,077		
Preferred stock warrant liability	496		
Convertible preferred stock (consisting of Series A and A-1, Series B and B-1, Series C and C-1, Series D and D-1, Series E and Series F convertible preferred stock on an aggregated basis), $0.01 par value; 100,000,000 shares authorized, 76,170,394 shares issued and outstanding actual, and no shares issued and outstanding, pro forma and pro forma as adjusted	153,474		
Stockholders' equity (deficit):			
Common stock, $0.01 par value; 150,000,000 shares authorized, 14,299,125 shares issued and outstanding actual, shares issued and outstanding pro forma; shares issued and outstanding pro forma as adjusted	143		
Additional paid-in-capital	(13,800)		
Accumulated other comprehensive income (loss)	—		
Accumulated deficit	(138,006)		
Total stockholders' equity (deficit)	(151,663)		
Total capitalization(1)	$ 19,693	$	$

(1) As of June 30, 2013, our cash, cash equivalents, restricted cash and marketable securities on an actual basis, pro forma basis and pro forma as adjusted basis were $2.8 million, $2.8 million and $ million, respectively. Cash, cash equivalents and marketable securities are indications of liquidity and do not constitute capitalization. Restricted cash consists of cash we receive from payments of our accounts receivables held in a segregated account that must be applied to pay amounts owed under our revolving credit facility.

A $1.00 per share increase (decrease) in the assumed initial public offering price of $ per share (the mid-point of the price range on the front cover of this prospectus) would increase (decrease) each of additional paid-in-capital, total stockholders' equity (deficit) and total capitalization by approximately $ million, assuming

that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma information discussed above is illustrative only and following the completion of this offering will be adjusted based on the actual initial public offering price and other terms of this offering as of June 30, 2013, and excludes:

- 3,958,485 shares of common stock issuable upon the exercise of outstanding options to purchase common stock as of June 30, 2013 under the 2003 Plan, at a weighted-average exercise price of $0.98 per share;
- 2,344,731 shares of common stock issuable upon the exercise of outstanding warrants for shares of Series C, Series D, Series E and Series F convertible preferred stock, on an as converted basis as of June 30, 2013, at a weighted average exercise price of $2.30 per share;
- 9,721,928 shares of common stock issuable upon the exercise of warrants for shares of our common stock outstanding as of June 30, 2013, at a weighted-average exercise price of $1.09 per share;
- 3,401,950 shares of common stock issuable upon the vesting of outstanding RSUs as of June 30, 2013 issued under the 2012 Plan; and
- 6,749,352 additional shares of common stock reserved for issuance under the 2012 Plan.

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DILUTION

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma net tangible book value per share of our common stock after this offering. We calculate net tangible book value per share by dividing the net tangible book value, or tangible assets less total liabilities and preferred shares, by the number of outstanding shares of common stock.

Our historical net tangible book deficit as of June 30, 2013 was $162.8 million or $11.38 per share of common stock. Our pro forma net tangible book value at June 30, 2013 was $, or $ per share, based on shares of our common stock outstanding after giving effect to the conversion of all outstanding shares of our preferred stock into shares of common stock.

After giving effect to the sale of shares of common stock by us at an assumed initial public offering price of $ per share (the mid-point of the price range set forth on the front cover page of this prospectus), less the estimated underwriting discounts and commissions and our estimated offering expenses, our pro forma as adjusted net tangible book value at June 30, 2013 would be $ million, or $ per share. This amount represents an immediate increase in the pro forma net tangible book value of $ per share to existing stockholders and an immediate dilution of $ per share to new investors purchasing shares at an assumed initial public offering price of $ per share. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share		$
Actual net tangible deficit per share as of June 30, 2013	$11.38	
Pro forma increase per share attributable to conversion of preferred stock to common stock and preferred stock warrants to common stock warrants and the related reclassification of the preferred stock warrant liability to additional paid in capital		
Pro forma net tangible book value per share as of June 30, 2013, before this offering		
Increase in pro forma net tangible book value per share attributable to new investors		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution in pro forma net tangible book value per share to new investors		$

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the pro forma net tangible book value by $ million, the pro forma as adjusted net tangible book value per share after this offering by $ per share and the dilution in pro forma net tangible book value per share to investors participating in this offering by $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise in full their option to purchase additional shares of our common stock in this offering, the pro forma as adjusted net tangible book value per share after the offering would be $ per share, the increase in the pro forma net tangible book value per share to existing stockholders would be $ per share and the dilution to new investors purchasing common stock in this offering would be $ per share.

The following table shows on an adjusted pro forma basis at June 30, 2013, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of common stock upon the closing of this offering, the difference between the number of shares of common stock purchased from us, the total consideration paid to us and the average price paid per share by existing stockholders and by new public investors purchasing common stock in this offering:

	Shares Purchased		Total Consideration		Average Price
	Number	Percent	Amount	Percent	Per Share
Existing stockholders		%	$	%	$
New investors participating in this offering		%		%	$
Total		100%	$	100%	$

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the mid-point of the price range set forth on the front cover page of this prospectus) would increase (decrease) the total consideration paid by new investors by $ million, or increase (decrease) the percent of total consideration paid by new investors by %, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same.

If the underwriters exercise in full their option to purchase additional shares, sales by us in this offering will reduce the percentage of shares held by existing stockholders to % and will increase the number of shares held by new investors to , or %.

This information is based on 14,299,125 shares of common stock outstanding as of June 30, 2013, and assumes the conversion of all of our shares of convertible preferred stock outstanding as of June 30, 2013 into shares of common stock upon the completion of this offering and excludes:

- 3,958,485 shares of common stock issuable upon the exercise of outstanding options to purchase common stock as of June 30, 2013, under the 2003 Plan, at a weighted-average exercise price of $0.98 per share;
- 2,344,731 shares of common stock issuable upon the exercise of warrants for shares of Series C, Series D, Series E and Series F convertible preferred stock, on an as converted basis as of June 30, 2013 at a weighted average exercise price of $2.30 per share;
- 9,721,928 shares of common stock issuable upon the exercise of warrants for shares of our common stock, outstanding as of June 30, 2013, at a weighted-average exercise price of $1.09 per share;
- 3,401,950 shares of common stock issuable upon the vesting of outstanding RSUs as of June 30, 2013 issued under the 2012 Plan; and
- 6,749,352 additional shares of common stock reserved for issuance under the 2012 Plan.

To the extent these outstanding options or warrants are exercised, or the RSUs vest, there will be further dilution to the new investors.

Furthermore, we may need to obtain additional capital which may be through the sale of equity or convertible debt securities to fund our current and future operating plans. To the extent we issue additional shares of common stock or other equity or convertible debt securities in the future, there will be further dilution to investors participating in this offering.

If all our outstanding options and warrants noted above had been exercised and the RSUs vest, the pro forma net tangible book value as of June 30, 2013 would have been $, or $ per share, and the as adjusted pro forma net tangible book value after this offering would have been $, or $ per share, causing dilution to new investors of $ per share. Additionally, assuming all outstanding options and warrants noted above had been exercised, the difference between the number of shares of common stock purchased from us, the total consideration paid to us, and the average price paid per share by existing stockholders and by new investors purchasing common stock in this offering would be as follows:

	Shares Purchased		Total Consideration		Average Price
	Number	Percent	Amount	Percent	Per Share
Existing stockholders		%	$	%	$
New investors participating in this offering		%		%	$
Total		100%	$	100%	$

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SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus. The selected consolidated statement of comprehensive loss data for the years ended December 31, 2011 and 2012 and selected consolidated balance sheet data as of December 31, 2011 and 2012 were derived from our audited consolidated financial statements that are included elsewhere in this prospectus. The selected consolidated statement of comprehensive loss data for the six months ended June 30, 2012 and 2013 and selected consolidated balance sheet data as of June 30, 2013 were derived from our unaudited consolidated financial statements that are included elsewhere in this prospectus. In the opinion of management, the unaudited consolidated financial statements were prepared on a basis consistent with our audited consolidated financial statements contained in this prospectus and include all adjustments necessary for the fair presentation of the financial information contained in those statements. The historical results presented below are not necessarily indicative of financial results to be achieved in future periods, and the results for the six months ended June 30, 2013 are not necessarily indicative of results to be expected for the full year.

	Years Ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
			(unaudited)	
	(in thousands, except per share amounts)			
Consolidated Statement of Comprehensive Loss Data:				
Product revenue	$ 20,261	$ 23,065	$11,422	$11,306
Cost of revenue				
Product revenue	4,088	5,423	2,203	3,008
Write-down of excess and obsolete inventory	—	1,043	750	267
Total cost of revenue	4,088	6,466	2,953	3,275
Gross profit	16,173	16,599	8,469	8,031
Operating expenses:				
Research and development	7,789	6,013	3,128	2,201
General and administrative	7,263	7,313	3,559	3,072
Sales and marketing	17,145	17,094	7,840	8,172
Impairment loss on intangible assets	—	15,281	—	—
Change in fair value of contingent consideration	4,832	—	—	—
Total operating expenses	37,029	45,701	14,527	13,445
Loss from operations	(20,856)	(29,102)	(6,058)	(5,414)
Other expense, net	(2,895)	(6,659)	(1,976)	(955)
Net loss before income taxes	(23,751)	(35,761)	(8,034)	(6,369)
Income tax benefit	—	726	—	—
Net loss	$(23,751)	$(35,035)	$ (8,034)	$ (6,369)
Net loss per share attributable to common stockholders				
Basic and diluted(1)	$ (2.65)	$ (3.90)	$ (0.89)	$ (0.53)
Shares used to calculate net loss attributable to common stockholders				
Basic and diluted	8,963	8,981	8,979	12,097
Pro forma net loss per share attributable to common stockholders (unaudited)				
Basic and diluted(1)		$		$
Weighted-average shares used to calculate pro forma net loss per share attributable to common stockholders (unaudited)				
Basic and diluted(1)		$		$

(1) See Note 1 to our consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate the historical and pro forma net loss per share, basic and diluted, and the number of shares used in the computation of the per share amounts.

	As of December 31,		As of June 30,
	2011	2012	2013
			(unaudited)
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash, restricted cash, cash equivalents and marketable securities(1)	$ 11,140	$ 5,682	$ 2,808
Working capital	12,742	(5,171)	(7,937)
Total assets	61,220	33,455	28,872
Long-term debt, including current portion	41,986	17,893	17,909
Convertible preferred stock	117,501	153,474	153,474
Total stockholders' equity (deficit)	(114,279)	(148,282)	(151,663)

(1) Restricted cash consists of cash we receive from payments of our accounts receivables held in a segregated account that must be applied to pay amounts owed under our revolving credit facility.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with "Selected Consolidated Financial Data" and with our consolidated financial statements and related notes appearing elsewhere in this prospectus. This discussion and analysis contains forward-looking statements based upon current beliefs, plans, expectations, intentions and projections that involve risks, uncertainties and assumptions, such as statements regarding our plans, objectives, expectations, intentions and projections. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under "Risk Factors" and elsewhere in this prospectus.

Overview

We are a commercial biomaterial company focused on using our silicon nitride technology platform to develop, manufacture and sell a broad range of medical devices. We currently market spinal fusion products and are developing products for use in total hip and knee joint replacements. We believe our silicon nitride technology platform enables us to offer new and transformative products in the orthopedic and other medical device markets. We believe we are the first and only company to use silicon nitride in medical applications and over 11,500 of our intervertebral fusion devices have been successfully implanted in patients.

We currently market our *Valeo MC²* silicon nitride interbody spinal fusion devices in the United States and Europe for use in the cervical and thoracolumbar areas of the spine. We believe our *Valeo* devices have a number of advantages over existing products due to silicon nitride's key characteristics, resulting in faster and more effective fusion and reduced risk of infection. Our first generation *Valeo* silicon nitride device received 510(k) regulatory clearance and a CE Mark in 2008. Based on surgeon feedback, we developed a second generation of *Valeo* products with design enhancements that improve surgeon control during implantation and stability post procedure. Earlier this year, we initiated a targeted launch of our second generation *Valeo* interbody fusion devices and expect to complete the full launch in the first half of 2014. We also market our *Valeo* composite interbody spinal fusion device made from both our solid *MC²* and porous *CSC* silicon nitride in the Netherlands, Spain and Germany. We are currently conducting a clinical trial in Europe to obtain additional data to support 510(k) clearance of this product in the United States. We completed enrollment in this trial in September 2013 and expect results to be available in the second half of 2014. If this trial is successful, we plan to file a 510(k) submission with the FDA by mid-2015. In addition, in the first half of 2013, we initiated a Design and Build Program focused on collaborating with influential surgeons to develop customized silicon nitride spinal fusion products and instruments and the first products designed under this program were sold in the third quarter of 2013.

In addition to our silicon nitride-based spinal fusion products, we market a complementary line of non-silicon nitride spinal fusion products which allows us to provide surgeons and hospitals with a broader range of products. Our product revenue was $23.1 million for the year ended December 31, 2012 and $11.3 million for the six months ended June 30, 2013, of which sales of our silicon nitride products accounted for $6.6 million and $3.5 million, respectively.

We market and sell our products to surgeons and hospitals in the United States and select markets in Europe and South America through our established network of more than 50 independent sales distributors. A substantial portion of our product revenue has historically been derived from sales in the United States. Our largest customer, Bon Secours Health System, accounted for 17% and 14% of our product revenues for the years ended December 31, 2011 and 2012, respectively, and 13% of our product revenues for the six months ended June 30, 2013. A significant portion of this hospital group's purchases from us are non-silicon nitride products and its accounts receivable balance was approximately 17% of our total trade accounts receivable at June 30, 2013.

We plan to use our silicon nitride technology platform to expand our product offerings. We are incorporating our silicon nitride technology into components for use in total hip and knee replacement product candidates that we are, or plan on, developing in collaboration with a strategic partner. In addition, we believe our silicon nitride

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technology platform can be used for developing products in other markets and have developed prototypes for use in the dental, sports medicine and trauma markets. We believe our coating technology may be used to enhance our metal products as well as commercially-available metals, such as those used in spinal fusion, joint replacement and other medical products.

Components of our Results of Operations

We manage our business within one reportable segment, which is consistent with how our management reviews our business, makes investment and resource allocation decisions and assesses operating performance.

Product Revenue

We derive our product revenue primarily from the sale of interbody spinal fusion devices and related products used in the treatment of spine disorders. We primarily sell our products through a network of independent sales distributors. Product revenue is recognized when all four of the following criteria are met: (1) persuasive evidence that an arrangement exists; (2) delivery of the products has occurred; (3) the selling price of the product is fixed or determinable; and (4) collectability of that price is reasonably assured. In addition, we account for product revenue under provisions which set forth guidelines for the timing of revenue recognition based upon factors such as the passage of title, installation, payment and customer acceptance. Our product revenue from sales of spinal fusion devices and related products is recognized (a) upon receipt of written acknowledgment from the surgeon or hospital that the product has been used in a surgical procedure, (b) upon receipt of a purchase order from a customer for a product that has been used in a surgical procedure, or (c) upon shipment of the product to third-party customers who immediately accept title to such product.

We believe our product revenue from the sale of our silicon nitride based products and our non-silicon nitride products will increase due to our sales and marketing efforts and as we introduce new silicon nitride based products into the market, such as our second generation *Valeo* interbody spinal fusion products in the United States. We expect that our product revenue will continue to be primarily attributable to sales of our products in the United States, though, as we expand our sales and marketing efforts and market additional products abroad, such as our spinal fusion device incorporating our *C*s*C*, we expect international sales will increase.

Cost of Revenue

The expenses that are included in cost of revenue include all direct product costs if we obtained the product from third-party manufacturers and our in-house manufacturing costs for the products we manufacture. We obtain our non-silicon nitride products, including our metal and orthobiologic products, from third-party manufacturers, while we manufacture our silicon-nitride products in-house.

Specific provisions for excess or obsolete inventory and, beginning in 2013, the 2.3% excise tax on the sale of medical devices in the United States are also included in cost of revenue. In addition, we pay royalties based on a percentage of our net after-tax profits attributable to the sale of specific products to some of our surgeon advisors that assisted us in the design, clearance or commercialization of a particular product, and these payments are recorded as cost of revenue.

Gross Profit

Our gross profit measures our product revenue relative to our cost of revenue. While we expect our cost of revenue to increase in absolute terms as our sales volume increases, we believe our gross profit will be higher as we expect to have greater sales of our higher margin silicon nitride-based products relative to our lower margin non-silicon nitride products in the future.

Research and Development Expenses

All research and development costs, including those funded by third parties, are expensed as incurred. Research and development costs consist of engineering, product development, clinical trials, test-part manufacturing, testing, developing and validating the manufacturing process, manufacturing, facility and regulatory-related costs. Research and development expenses also include employee compensation, employee and non-employee stock-based compensation, supplies and materials, consultant services, and travel and facilities expenses related to research activities.

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We expect to incur additional research and development costs as we continue to develop new products and as we advance the development of our product candidates for total hip and knee joint replacement. In particular, we plan to conduct a clinical trial for our total hip replacement product candidate in 2014, which may increase our research and development expenses.

Sales and Marketing Expenses

Sales and marketing expenses primarily consist of salaries, benefits and other related costs, including stock-based compensation, for personnel employed in sales, marketing, medical education and training. In addition, our sales and marketing expenses include commissions and bonuses, generally based on a percentage of sales, to our sales managers and independent sales distributors. We provide our products in kits or banks that consist of a range of device sizes and separate instruments necessary to complete the surgical procedure. We generally consign our instruments to our sales organization or our hospital customers that purchase the device used in spinal fusion surgery. Our sales and marketing expenses include depreciation of the instruments.

We expect our sales and marketing expenses to continue to increase, including instrument set depreciation, as we introduce new products, such as our second generation *Valeo* spinal fusion products into the United States, and seek to enhance our commercial infrastructure, including increasing our marketing efforts and further educating our distributors. Additionally, we expect our commissions to continue to increase in absolute terms over time but remain approximately the same or decrease as a percentage of product revenue.

General and Administrative Expenses

General and administrative expenses primarily consist of salaries, benefits and other related costs, including stock-based compensation, for certain members of our executive team and other personnel employed in finance, legal, compliance, administrative, information technology, customer service, executive and human resource departments. General and administrative expenses include allocated facility expenses, related travel expenses and professional fees for accounting and legal services.

We expect our general and administrative expenses will increase due to costs associated with transitioning from a private to a public company and as we continue to grow our business.

Results of Operations

Six Months Ended June 30, 2012 Compared to the Six Months Ended June 30, 2013

The following table sets forth our results of operations for the six months ended June 30, 2012 and June 30, 2013 (in thousands):

	Six Months Ended June 30,		Change	
	2012	2013	$	% Change
	(unaudited)			
Product revenue	$ 11,422	$ 11,306	$ (116)	(1.0)%
Cost of revenue	2,953	3,275	322	10.9%
Gross profit	8,469	8,031	(438)	(5.2)%
Operating expenses:				
Research and development	3,128	2,201	(927)	(29.6)%
General and administrative	3,559	3,072	(487)	(13.7)%
Sales and marketing	7,840	8,172	332	4.2%
Total operating expenses	14,527	13,445	(1,082)	(7.4)%
Loss from operations	(6,058)	(5,414)	644	(10.6)%
Other expense, net	(1,976)	(955)	1,021	(51.7)%
Net loss	$ (8,034)	$ (6,369)	$ 1,665	(20.7)%

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Product Revenue

The following table sets forth, for the periods indicated, our product revenue from sales of the indicated product category (in thousands):

	Six Months Ended June 30,		Change	
	2012	2013	$	% Change
	(unaudited)			
Silicon Nitride	$ 3,249	$ 3,547	$ 298	9.2%
Non-Silicon Nitride	8,173	7,759	(414)	(5.1)%
Total Product Revenue	$ 11,422	$ 11,306	$(116)	(1.0)%

Total product revenue was $11.3 million in the six months ended June 30, 2013 as compared to $11.4 million in the six months ended June 30, 2012, a decrease of $0.1 million or 1.0%. This decrease in total product revenue was primarily attributable to our restructuring of our sales and marketing teams during the first quarter of this period, resulting from changes in our distribution network, the timing of the launch of our second generation *Valeo* products and a one-time sale of non-silicon nitride products to an international customer in the 2012 period with no corresponding sale in 2013. Sales of our silicon nitride products increased by $0.3 million, or 9.2%, in the six months ended June 30, 2013 as compared to the same period of 2012. Non-silicon nitride sales decreased $0.4 million, or 5.1%, for the first six months of 2013 compared to the same period of 2012, as the focus of the new sales team was primarily on silicon nitride product sales verses non-silicon nitride product sales.

The following table sets forth, for the periods indicated, our product revenue by geographic area (in thousands):

	Six Months Ended June 30,		Change	
	2012	2013	$	% Change
	(unaudited)			
Domestic	$ 10,485	$ 11,224	$ 739	7.0%
International	937	82	(855)	(91.2)%
Total Product Revenue	$ 11,422	$ 11,306	$(116)	(1.0)%

Product revenue attributable to sales in the United States was $11.2 million in the six months ended June 30, 2013, an increase of $0.7 million, or 7.0%, over the same period in 2012. Product revenue attributable to international sales was $0.1 million in the six months ended June 30, 2013, a decrease of $0.9 million, or 91.2%, as compared to the same period in 2012. The decrease was primarily attributable to a one-time sale of non-silicon nitride products to an international customer in the 2012 period.

Cost of Revenue

Cost of revenue was $3.3 million in the six months ended June 30, 2013 as compared to $3.0 million in the six months ended June 30, 2012, an increase of $0.3 million, or 10.9%. This increase was primarily related to the new 2.3% medical device excise tax in the United States, which totaled $0.2 million during the six months ended June 30, 2013, and a volume increase in sales of our orthobiologic products resulting in additional costs of $0.2 million, partially offset by excess and obsolete inventory costs.

Gross Profit

Gross profit as a percentage of product revenue decreased by 3.1% to 71.0% for the six months ended June 30, 2013 from 74.1% for the same period in 2012, primarily as a result of the U.S. medical device excise tax of 2.3% on product revenue which became effective in January 2013 and a lower selling price per unit for our orthobiologic products in the six months ended June 30, 2013 period as compared to the same period in 2012.

Research and Development Expenses

Research and development expenses were $2.2 million in the six months ended June 30, 2013 as compared to $3.1 million in the six months ended June 30, 2012, a decrease of $0.9 million, or 29.8%. This decrease was primarily due to a decrease of $0.5 million in employee compensation including taxes, benefits and stock compensation, $0.2 million in depreciation expense and $0.2 million in product testing expense.

General and Administrative Expenses

General and administrative expenses were $3.1 million in the six months ended June 30, 2013 as compared to $3.6 million in the six months ended June 30, 2012, a decrease of $0.5 million, or 13.7%. This decrease was primarily due to decreases of $0.7 million in amortization expense, $0.2 million in employee stock compensation, and $0.2 million in legal and patent expenses; partially offset by a $0.3 million increase of employee compensation and a $0.2 million increase in accounting and consulting services.

Sales and Marketing Expenses

Sales and marketing expenses were $8.2 million in the six months ended June 30, 2013 as compared to $7.8 million in the six months ended June 30, 2012, an increase of $0.4 million, or 4.4%. This increase was primarily due to an increase of $0.5 million in commission expense to our sales distributors to support increased silicon nitride sales volume, partially offset by a decrease of $0.1 million in depreciation expense.

Other Income (Expense), Net

We incurred other expense of $1.0 million in the six months ended June 30, 2013 as compared to $2.0 million in the six months ended June 30, 2012, a decrease of $1.0 million, or 51.7%. This decrease in other expense was primarily due to a $1.6 million reduction in interest expense, partially offset by a net change of $0.8 million in fair value of our common and preferred stock warrants.

Year Ended December 31, 2011 Compared to the Year Ended December 31, 2012

The following table sets forth our results of operations for the years ended December 31, 2011 and December 31, 2012 (in thousands):

	Year ended December 31,		Change	
	2011	2012	$	% Change
Product revenue	$ 20,261	$ 23,065	$ 2,804	13.8%
Cost of revenue	4,088	6,466	2,378	58.2%
Gross profit	16,173	16,599	426	2.6%
Operating expenses:				
Research and development	7,789	6,013	(1,776)	(22.8)%
General and administrative	7,263	7,313	50	0.1%
Sales and marketing	17,145	17,094	(51)	(0.0)%
Impairment loss on intangible assets	—	15,281	15,281	N/A
Change in fair value of contingent consideration	4,832	—	(4,832)	N/A
Total operating expenses	37,029	45,701	8,672	23.4%
Loss from operations	(20,856)	(29,102)	(8,246)	39.5%
Other expense, net	(2,895)	(6,658)	(3,763)	130.0%
Net loss before income taxes	(23,751)	(35,760)	(12,009)	50.6%
Income tax benefit	—	726	726	N/A
Net loss	$ (23,751)	$ (35,034)	$(11,283)	47.5%

Product Revenue

The following table sets forth, for the periods indicated, our product revenue by product category (in thousands):

	Year Ended December 31,		Change	
	2011	2012	$	% Change
Silicon Nitride	$ 6,221	$ 6,578	$ 357	5.7%
Non-Silicon Nitride	14,040	16,487	2,447	17.4%
Total Product Revenue	$ 20,261	$ 23,065	$2,804	13.8%

Total product revenue was $23.1 million in 2012 as compared to $20.3 million in 2011, an increase of $2.8 million or 13.8%. The increase in total product revenue was primarily attributable to higher sales of our non-silicon nitride products, which increased by $2.4 million, or 17.4%, in the year ended December 31, 2012 as compared to 2011. Product revenues in 2012 were favorably impacted by a one-time sale of non-silicon nitride products to an international customer. Sales of our silicon nitride products increased $0.4 million, or 5.7%, for the year ended December 31, 2012 compared to 2011.

The following table sets forth, for the periods indicated, our product revenue from by geographic area (in thousands):

	Year Ended December 31,		Change	
	2011	2012	$	% Change
Domestic	$ 19,826	$ 21,847	$2,021	10.2%
International	435	1,218	783	180.0%
Total Product Revenue	$ 20,261	$ 23,065	$2,804	13.8%

Product revenue attributable to sales in the United States was $21.8 million in the year ended December 31, 2012, an increase of $2.0 million, or 10.2%, over 2011. Product revenue attributable to international sales was $1.2 million in the year ended December 31, 2012, an increase of $0.8 million, or 180%, as compared to 2011, which was primarily attributable to a one-time sale of non-silicon nitride products to an international customer in 2012.

Cost of Revenue

Cost of revenue was $6.5 million in 2012 as compared to $4.1 million in 2011, an increase of $2.4 million, or 58.2%. This increase was primarily the result of a $1.0 million charge related to excess and obsolete inventory, a $0.5 million charge to inventory scrap adjustments and a $0.6 million charge resulting from a volume increase in sales of our orthobiologic products in 2012.

Gross Profit

Gross profit as a percentage of product revenue decreased by 7.8%, to 72.0%, for the year ended December 31, 2012, from 79.8% for the year ended December 31, 2011. This decrease was primarily as a result of a $1.0 million charge related to excess and obsolete inventory, higher than normal inventory scrap adjustments and increased acquisition costs for our orthobiologic products, partially offset by increased sales in 2011.

Research and Development Expenses

Research and development expenses were $6.0 million in 2012 as compared to $7.8 million in 2011, a decrease of $1.8 million or 22.6%. This decrease was primarily due to a decrease of $0.9 million in employee compensation including taxes, benefits and stock compensation, $0.4 million in depreciation expense and $0.4 million in overhead allocation expense related to the manufacture of our silicon nitride products.

General and Administrative Expenses

General and administrative expenses were $7.3 million in 2012 as compared to $7.3 million in 2011.

Sales and Marketing Expenses

Sales and marketing expenses were $17.1 million in 2012, as compared to $17.1 million in 2011.

Impairment Loss on Intangible Assets

Impairment loss on intangible assets was $15.3 million in 2012 relating to assets we obtained in our acquisition of US Spine, Inc., or US Spine. The amount of the impairment loss was determined during management's annual impairment review and resulted from lower sales of certain products and customers we acquired in the US Spine transaction than originally expected. There was not an impairment loss on intangible assets during 2011 and we do not expect to incur similar impairment losses in 2013.

Change in Fair Value of Contingent Consideration

Change in fair value of contingent consideration was $4.8 million in 2011. There was no change in fair value of contingent consideration in 2012.

Other Income (Expense), Net

Other expense was $6.7 million in 2012 and $2.9 million in 2011, an increase of $3.8 million, or 130.0%. The increase was primarily attributable to an increase of interest expense of $2.2 million, a change in fair value of stock warrants of $1.2 million and a loss on extinguishment of debt of $0.3 million during 2012.

Liquidity and Capital Resources

For the years ended December 31, 2011 and 2012 and the six months ended June 30, 2012 and 2013, we incurred a net loss of $23.8 million, $35.0 million, $8.0 million and $6.4 million, respectively, and used cash in operations of $14.9 million, $9.7 million, $5.5 million and $3.7 million, respectively. We have an accumulated deficit of $131.6 million as of December 31, 2012 and $138.0 million as of June 30, 2013. With the exception of a small net income for the years ended December 31, 2002 and 1999, we have incurred net losses in each year since inception. To date, our operations have been principally financed from proceeds from the issuance of convertible preferred stock and common stock, convertible debt and bank debt and, to a lesser extent, cash generated from product sales. Since January 2011, we issued the following securities to help fund our operations:

- between March 2011 and February 2012, we issued aggregate principal amount of $29.8 million of Senior Secured Subordinated 6%/8% Convertible Promissory Notes, or the Senior Secured Notes, and warrants to purchase an aggregate of 6,250,000 shares of our common stock at an exercise price of $2.00 per share. All outstanding Senior Secured Notes were converted into 14,887,500 shares of our Series F convertible preferred stock in December 2012 contemporaneously with our entering into a new terms loan and a revolving credit facility with General Electric Capital Corporation, or GE Capital;
- in February 2013, we issued an aggregate of 4,601,177 shares of our common stock upon exercise of warrants and the sale of additional shares of our common stock at $0.68 per share for an aggregate purchase price of $3.1 million. We also issued each investor purchasing shares of our common stock through the exercise of warrants new warrants to purchase shares of our common stock at an exercise price of $0.68 per share; and
- in August and September 2013, we issued an aggregate of 94.8 units, each unit consisting of 50,000 shares of our Series F convertible preferred stock and a warrant to acquire 25,000 shares of our common stock at an exercise price of $1.00 per share, for gross proceeds of $9.5 million.

As of December 31, 2012 and June 30, 2013, we had approximately $5.7 million and $2.8 million, respectively, in cash, cash equivalents, restricted cash and marketable securities. Restricted cash, which was $260,459 and $54,284 at December 31, 2012 and June 30, 2013, respectively, consists of cash balances in transit from a segregated account that must first be applied to pay down any outstanding balance on our revolving credit facility with GE Capital. In order to finance the continued growth in product sales, to invest in further product development and to otherwise satisfy obligations as they mature, we may need to seek additional financing through the issuance of common stock, preferred stock, convertible or non-convertible debt financing. Additional funding, however, may not be available to us on acceptable terms, or at all. If we are unable to access additional

funds when needed, we may not be able to continue the development of our silicon nitride technology, our products or our product candidates or we could be required to delay, scale back or eliminate some or all of our development programs and other operations. Any additional equity financing, if available to us, may not be available on favorable terms, will most likely be dilutive to our current stockholders, and debt financing, if available, may involve restrictive covenants. We expect our existing cash and cash equivalents, our expected product revenue and the net proceeds of this offering to support our operations through at least the next 18 months.

Pursuant to its terms, we must repay our $18.0 million term loan with GE Capital over a period of 30 months beginning in January 2014. Although the repayment obligations under this term loan extend past June 30, 2014, the entire amount of this liability was recorded as a current liability on our consolidated balance sheet at June 30, 2013 because we were in default under the agreement at June 30, 2013 and although GE Capital granted us waivers of such defaults, the event of default waivers did not extend through July 1, 2014. We expect to use a portion of the net proceeds of this offering to service the outstanding borrowings on this term loan as well as our revolving credit facility with GE Capital. We must pay GE Capital a repayment fee of $720,000 upon prepayment in full or at scheduled maturity of the term loan.

Going Concern

Our ability to access capital when needed is not assured and, if not achieved on a timely basis, will materially harm our business, financial condition and results of operations. These uncertainties create substantial doubt about our ability to continue as a going concern. Our independent registered public accounting firm included an explanatory paragraph regarding substantial doubt about our ability to continue as a going concern in their report on our annual financial statements for the fiscal year ended December 31, 2012 included elsewhere in this prospectus. The financial information throughout this prospectus and the financial statements included elsewhere in this prospectus have been prepared on a basis which assumes that we will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. This financial information and statements do not include any adjustments that may result from the outcome of this uncertainty.

Cash Flows

The following table summarizes, for the periods indicated, cash flows from operating, investing and financing activities (in thousands):

	Year ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
			(unaudited)	
Net cash used in operating activities	$ (14,908)	$ (9,730)	$ (5,542)	$ (3,663)
Net cash provided by (used in) investing activities	(9,170)	4,275	1,766	480
Net cash provided by financing activities	23,750	4,866	4,788	1,576
Net change in cash and cash equivalents	$ (328)	$ (589)	$ 1,012	$ (1,607)

Cash Used in Operating Activities

Net cash used in operating activities was $3.7 million in the six months ended June 30, 2013, compared to $5.5 million used in the six months ended June 30, 2012, a decrease of $1.9 million, or 34.5%. This decrease in net cash used in operating activities was primarily attributable to a $2.4 million decrease in trade accounts receivable mostly due to improved collection and cash management efforts, a $1.7 million decrease in net loss, a $1.2 million increase in the change in fair value of common stock warrant liability, a $0.3 million decrease in inventories and a $0.2 million increase in accretion of interest expense related to our new debt facility with GE Capital during the six months ended June 30, 2013; partially offset primarily by a $0.9 million decrease in non-cash interest expense on convertible debt, a $0.7 million decrease in amortization of intangible assets, a $0.5 million decrease in stock based compensation, a $0.5 million decrease in write-down of excess and obsolete inventory, a $0.5 million decrease in change of fair value of preferred stock warrant liability, a $0.4 million decrease in depreciation expense, a $0.2 million decrease in prepaid expenses and other current assets, a $0.1

million decrease in accretion of interest expense on a promissory note we issued in connection with our acquisition of US Spine and a $0.1 million decrease in accounts payable and accrued liabilities during the six months ended June 30, 2012.

Net cash used in operating activities was $9.7 million in 2012, compared to $14.9 million used in 2011, a decrease of $5.2 million, or 34.9%. This decrease in net cash used in operating activities was primarily attributable to a $11.3 million decrease in net loss, a $4.8 million decrease in the change in fair value of contingent consideration, a $1.4 million decrease in depreciation expense, a $1.0 million decrease in prepaid expense and other current assets, a $0.3 million decrease in bad debt expense, a $0.1 million decrease in amortization of interest expense on a promissory note we issued in connection with our acquisition of US Spine and a $0.1 million decrease in accounts payable and accrued liabilities during the year ended December 31, 2012; partially offset by a $15.3 million increase in write-down of intangible assets, a $4.4 million increase in inventories, a $1.3 million increase in non-cash interest expense on convertible debt, a $1.0 million increase in write-down of excess and obsolete inventory, a $0.8 million increase in change in fair value of common stock warrant liability, a $0.4 million increase in change in fair value of preferred stock warrant liability, a $0.3 million increase in loss on extinguishment of debt, a $0.2 million increase in stock based compensation, a $0.2 million increase on the loss on the sale of equipment and $0.1 million increase in trade accounts receivable during the year ended December 31, 2012.

Cash Provided by (Used in) Investing Activities

Net cash provided by investing activities was $0.5 million in the six months ended June 30, 2013, compared to $1.8 million provided in 2012, a decrease of $1.3 million, or 72.8%. This decrease in net cash provided in investing activities was primarily attributable to a $0.7 million decrease in net proceeds from maturities of marketable securities and a $0.4 million increase in the purchase of property and equipment, partially offset by a decrease in restricted cash of $0.2 million during the six months ended June 30, 2013.

Net cash provided by investing activities was $4.3 million in 2012, compared to cash used in investing activities of $9.2 million in 2011, an increase of $13.5 million. This increase in net cash provided in investing activities was primarily attributable to a $10.1 million reduction in the purchase of marketable securities, a $2.9 million increase in proceeds from maturities of marketable securities and a $0.8 million decrease in the purchase of property and equipment, partially offset by a $0.3 million increase in restricted cash during the year ended December 31, 2012.

Cash Provided by Financing Activities

Net cash provided by financing activities was $1.5 million in the six months ended June 30, 2013, compared to $4.8 million provided in 2012, a decrease of $3.3 million, or 68.8%. This decrease in net cash provided by financing activities was primarily attributable to an $8.4 million increase on the payment on a line of credit and a $4.8 million decrease in the proceeds from the issuance of convertible debt and warrants, net of issuance, partially offset by a $7.1 million increase of proceeds from our line of credit and a $2.8 million increase of proceeds from the exercise of common stock warrants during the six months ended June 30, 2013.

Net cash provided by financing activities was $4.9 million in 2012, compared to $23.7 million provided in 2011, a decrease of $18.8 million, or 79.3%. This decrease in net cash provided by financing activities was primarily attributable to a $15.5 million payment to extinguish our old bank debt in December 2012 and an $18.8 million decrease in the proceeds from issuance of convertible debt and warrants, net of issuance, partially offset by a $14.9 million increase in the proceeds from issuance of long-term debt and a $0.6 million increase in the proceeds from our line of credit during the year ended December 31, 2012.

Indebtedness

In December 2012, we entered into a $18.0 million term loan and up to $3.5 million revolving credit facility with GE Capital, as agent and lender, and Zions First National Bank, as lender. We pledged all of our assets as collateral for the loans. The revolving line of credit is secured by our accounts receivable, based on certain defined criteria. The term loan consists of interest only payments until January 1, 2014 after which monthly interest payments as well as principal payments of approximately $600,000 each are required for a period of 30

months. The term loan bears interest at the fixed rate of 7.5% per annum, while the line of credit had an interest rate of 7.0% at June 30, 2013, which is based on the variable rate of 5.5% plus the higher of (i) 1.5% and (ii) the three-month LIBOR, determined as of two London business days divided by a number equal to 1.0 minus the aggregate of the rates of reserve requirements on the day that is two London business days prior to the beginning of the interest period for Eurocurrency funding that are required to be maintained by a member bank of the Federal Reserve System. The agreement includes a non-refundable final payment fee equal to 4% of the original principal amount of the term loan, or $720,000, upon prepayment in full or scheduled maturity of the term loan, as well as an annual management fee equal to $15,000 per year.

The loan agreement includes certain financial covenants related to monthly cash burn and minimum liquidity, days sales outstanding of accounts receivable balances, annual payment restrictions to our directors and other financial reporting requirements. We were obligated to raise additional equity financing under the loan agreement which we satisfied upon the closing of the $7.5 million financing in August 2013. The loan agreement provides for an unused credit facility fee of 0.75% per annum of the unused portion of the line of credit, payable monthly in arrears. We paid a total of approximately $333,000 in fees and commissions associated with entering into this facility, of which approximately $264,000 was capitalized as debt issuance costs and the remaining $69,000 was recorded as interest expense in 2012.

In connection with entering into the new term loan and credit facility with GE Capital in December 2012, we repaid all amounts outstanding under our term loans and line of credit facility with a previous lender, which totaled $18.0 million in principal and approximately $36,000 in accrued interest. We paid $107,500 in commissions related to this repayment, of which approximately $70,000 was capitalized as debt issuance costs and the remaining $37,500 was recorded as interest expense in 2012. We expect to use a portion of the net proceeds of this offering to service the outstanding debt under the term loan as well as our revolving credit facility with GE Capital.

Contractual Obligations and Commitments

The following table summarizes our outstanding contractual obligations as of June 30, 2013. There have been no material changes in our remaining contractual obligations since that time (in thousands).

	Payments Due By Period				
	Total	Less than 1 Year(1)(2)	1-3 Years(2)	3-5 Years	After 5 Years
Long Term Debt Obligations	$18,000	$ —	$18,000	$ —	$ —
Operating Lease Obligations	$ 5,963	$ 421	$ 1,752	$1,848	$1,942
Total	$23,963	$ 421	$19,752	$1,848	$1,942

(1) Less than 1 year refers to the remaining six months of 2013.

(2) Does not include the $720,000 final payment fee we must pay upon prepayment in full or scheduled maturity of the term loan or the $15,000 per year annual management fee.

The information above reflects only payment obligations that are fixed and determinable. Our commitments for long-term debt relate to our term loans with GE Capital and our commitment to our operating lease for our corporate headquarters and manufacturing facility in Salt Lake City, Utah. The above table does not include any of the contractual obligations with respect to royalties payable upon sales of certain of our products as none of our arrangements contain minimum royalty payments. We also do not have contractually minimum purchase commitments for the supply of any of our raw materials, products or instruments.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, as defined in Item 303(a)(4) of Regulation S-K.

Related-Party Transactions

For a description of our related-party transactions, see "Certain Relationships and Related Party Transactions."

Seasonality and Backlog

Our business is generally not seasonal in nature. However, our sales may be influenced by summer vacation and winter holiday periods during which we believe fewer spinal fusion surgeries are conducted. Our sales generally consist of products that are in stock with us or maintained at hospitals or with our sales distributors. Accordingly, we do not have a backlog of sales orders.

Critical Accounting Policies and Estimates

The preparation of the consolidated financial statements requires us to make assumptions, estimates and judgments that affect the reported amounts of assets and liabilities, the disclosures of contingent assets and liabilities as of the date of the consolidated financial statements, and the reported amounts of product revenues and expenses during the reporting periods. Certain of our more critical accounting policies require the application of significant judgment by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. On an ongoing basis, we evaluate our judgments, including those related to inventories, recoverability of long-lived assets and the fair value of our common stock. We use historical experience and other assumptions as the basis for our judgments and making these estimates. Because future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates. Any changes in those estimates will be reflected in our consolidated financial statements as they occur. As an "emerging growth company," we have elected to delay the adoption of new or revised accounting standards until those standards would otherwise apply to private companies. As a result, our financial statements may not be comparable to those of other public companies. While our significant accounting policies are more fully described in the footnotes to our consolidated financial statements included elsewhere in this prospectus, we believe that the following accounting policies and estimates are most critical to a full understanding and evaluation of our reported financial results. The critical accounting policies addressed below reflect our most significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

We derive our product revenue primarily from the sale of interbody spinal fusion devices used in the treatment of spine disorders. We primarily sell our products through a network of independent sales distributors. Product revenue is recognized when all four of the following criteria are met: (1) persuasive evidence that an arrangement exists; (2) delivery of the products has occurred; (3) the selling price of the product is fixed or determinable; and (4) collectability of that price is reasonably assured. In addition, we account for product revenue under provisions which set forth guidelines for the timing of revenue recognition based upon factors such as the passage of title, installation, payment and customer acceptance. Our product revenue from sales of spinal fusion devices and related products is recognized (a) upon receipt of written acknowledgment from the surgeon or hospital that the product has been used in a surgical procedure, (b) upon receipt of a purchase order from a customer for a product that has been used in a surgical procedure or (c) upon shipment of the product to third-party customers who immediately accept title to such product.

Accounts Receivable and Allowance for Doubtful Accounts

The majority of our accounts receivable is composed of amounts due from hospitals or surgical centers. Accounts receivable are carried at cost less an allowance for doubtful accounts. On a regular basis, we evaluate accounts receivable and estimate an allowance for doubtful accounts, as needed, based on various factors such as customers' current credit conditions, length of time past due, and the general economy as a whole. Receivables are written off against the allowance when they are deemed uncollectible.

Inventories

Inventories are stated at the lower of cost or market, with cost for manufactured inventory determined under the standard cost method which approximates the first-in first-out method. Manufactured inventory consists of raw material, direct labor and manufacturing overhead cost components. Inventories purchased from third-party manufacturers are stated at the lower of cost or market using the first-in, first out method. We review the carrying

value of inventory on a periodic basis for excess or obsolete items and record an expense for the identified items as necessary. We have made adjustments to, and it is reasonably possible that we may be required to make further adjustments to, the carrying value of inventory in future periods. We hold some consigned inventory at distributors and other customer locations where revenue recognition criteria have not yet been met.

Long-Lived Assets and Goodwill

Periodically we assess potential impairment of our long-lived assets, which include property, equipment, and acquired intangible assets. We perform an impairment review whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important which could trigger an impairment review include, but are not limited to, significant under-performance relative to historical or projected future operating results, significant changes in the manner of use of the acquired assets or our overall business strategy, and significant industry or economic trends. When we determine that the carrying value of a long-lived asset may not be recoverable based upon the existence of one or more of the above indicators, we determine the recoverability by comparing the carrying amount of the asset to net future undiscounted cash flows that the asset is expected to generate and recognize an impairment charge equal to the amount by which the carrying amount exceeds the fair market value of the asset. We amortize intangible assets on a straight-line basis over their estimated useful lives.

Our management noted that certain US Spine product sales and sales to certain acquired US Spine customers during the one-year period ended December 31, 2012 had been less than expected relative to the forecasted revenues at the time of our acquisition of US Spine. This indicator prompted us to question whether the carrying value of our long-lived and indefinite lived intangible assets would be recoverable. We compared the carrying amount of the assets to net future undiscounted cash flows that the intangible assets are expected to generate, and concluded that an impairment existed. We estimated the fair values of the intangible assets and recognized an impairment loss of approximately $15.3 million in the year ended December 31, 2012.

Our long-lived assets include surgical instruments used by spine surgeons during surgical procedures to facilitate the implantation of our products. There are no contractual terms with respect to the usage of our instruments by our customers. Surgeons are under no contractual commitment to use our instruments. We maintain ownership of these instruments and, when requested, we allow the surgeons to use the instruments to facilitate implantation of our related products. We do not currently charge for the use of our instruments and there are no minimum purchase commitments of our products. As our surgical instrumentation is used numerous times over several years, often by many different customers, instruments are capitalized as property and equipment once they have been placed in service. Once placed in service, instruments are carried at cost, less accumulated depreciation. Depreciation is computed using the straight-line method based on average estimated useful lives. Estimated useful lives of surgical instruments are determined based on a variety of factors including in reference to associated product life cycles, and average three years. As instruments are used as tools to assist surgeons, depreciation of instruments is recognized as a sales and marketing expense. Instrument depreciation expense was $2.3 million, $1.2 million, $0.6 million and $0.5 million for the years ended December 31, 2011 and 2012 and the six months ended June 30, 2012 and 2013, respectively.

We review our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value of the assets may not be recoverable. An impairment loss would be recognized when estimated future undiscounted cash flows relating to the assets are less than the assets' carrying amount. An impairment loss is measured as the amount by which the carrying amount of an asset exceeds its fair value.

We test goodwill for impairment annually as of December 31, or whenever events or changes in circumstances indicate that goodwill may be impaired. We initially assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events or circumstances, we determine it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, then we perform a first step by comparing the book value of net assets to the fair value of our single reporting unit. If the fair value is determined to be less than the book value, a second step is performed to compute the amount of impairment as the difference between the estimated fair value of goodwill and the carrying value.

Income Taxes

We recognize deferred tax assets and liabilities for the future tax consequences attributable to the differences between the financial statement carrying value of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the fiscal year in which those temporary differences are expected to be recovered or settled. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

We operate in various tax jurisdictions and are subject to audit by various tax authorities. We provide for tax contingencies whenever it is deemed probable that a tax asset has been impaired or a tax liability has been incurred for events such as tax claims or changes in tax laws. Tax contingencies are based upon their technical merits relative tax law and the specific facts and circumstances as of each reporting period. Changes in facts and circumstances could result in material changes to the amounts recorded for such tax contingencies.

We recognize uncertain income tax positions taken on income tax returns at the largest amount that is more-likely than-not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained.

Our policy for recording interest and penalties associated with uncertain tax positions is to record such items as a component of our income tax provision. For the years ended December 31, 2011 and 2012 and for the six months ended June 30, 2012 and 2013, we did not record any material interest income, interest expense or penalties related to uncertain tax positions or the settlement of audits for prior periods.

Stock-Based Compensation Expense

Common Stock Valuation

Historically, our board of directors has determined the fair value of the common stock with assistance from management and based upon information available at the time of grant. The valuation of our common stock requires us to make complex and subjective judgments. We considered a combination of valuation methodologies, including income, market and transaction approaches. The most significant factors considered by our board of directors when determining the fair value of our common stock were as follows:

- external market and economic conditions affecting the medical device industry;
- prices at which we sold shares of our convertible preferred stock to third-party investors;
- the superior rights and preferences of securities senior to our common stock, such as our preferred stock, at the time of each grant;
- our need for future financing to fund commercial operations;
- the lack of marketability of our common stock;
- third-party valuations of our common stock;
- our historical operating and financial performance;
- the status of our research and development efforts;
- the status of our new product releases to the spine market;
- the likelihood of achieving a liquidity event, such as an initial public offering or sale of our company; and
- estimates and analysis provided by management.

We have regularly obtained third-party valuations to assist our board of directors in determining the fair value of our common stock for each stock option grant and other stock-based awards, on an annual basis since 2007.

Significant Factors and Assumptions Used in Determining Fair Value of Common Stock

For the periods presented, valuations of our common stock were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation.*

A discussion of the determination of the fair value of our common stock on our option grant dates from January 1, 2011 to June 19, 2012, the last day on which we granted options to purchase our common stock, is provided below:

January 1, 2011 through June 16, 2011

From January 1, 2011 through June 16, 2011, our board of directors granted options to purchase an aggregate of 241,100 shares of our common stock all with an exercise price of $1.00 per share. In estimating the fair value of our common stock to set the exercise price of such options as of each date of grant in this period, our board of directors reviewed and considered an independent valuation report for our common stock as of September 30, 2010 delivered to us in December 2010, which reflected a fair value for our common stock of $0.99 per share. On each grant date, our board of directors considered whether changes in the business or other circumstances had impacted the analysis and assumptions associated with the September 2010 third-party valuation. In particular, our board of directors noted that we had just closed the acquisition of US Spine on September 20, 2010 which influenced the September 2010 valuation. The board of directors also noted that a long-term liquidity event, including a private sale, merger or acquisition, was still our only likely liquidity scenario on each grant date. As a result of these analyses, the board of directors determined the fair value of our common stock on January 1, 2011, March 3, 2011 and June 16, 2011 was $1.00 per share consistent with the valuation as of September 30, 2010. In granting options at $1.00 per share, the primary valuation factors considered by our board of directors on each grant date were:

- the independent third-party valuation as of September 30, 2010;
- the continued growth of our business and revenues and anticipated increase in growth resulting from the acquisition of US Spine;
- the fact that we continued to operate at a loss, partially as a result of our continued investment in research and development and our sales organization;
- a discount rate, based on our estimated weighted average cost of capital;
- a lack of marketability discount;
- the exit value multiples set by our comparable companies; and
- management’s expectation that we would achieve forecasted revenue for the year ended December 31, 2011.

December 8, 2011 through June 19, 2012

From December 8, 2011 through June 19, 2012, our board of directors granted options to purchase an aggregate of 3,332,808 shares of our common stock all with an exercise price of $1.00 per share. In estimating the fair value of our common stock to set the exercise price of such options as of each date of grant in this period, our board of directors reviewed and considered an independent valuation report for our common stock as of September 30, 2011 delivered to us in October 2011, which reflected a fair value for our common stock of $0.95 per share. On each grant date, our board of directors considered whether changes in the business or other circumstances had impacted the analysis and assumptions associated with the September 2011 third-party valuation. In particular, the board of directors noted that we had begun to assimilate the US Spine products and acquired technology and to operate our business in the ordinary course, and that a long-term liquidity event, including a private sale, merger or acquisition, was still our only likely liquidity scenario on each grant date. As a result, the board of directors determined that the fair value of our common stock remained unchanged from the previous determinations and was $1.00 per share on the dates of the option grants in December 2011, March 2012 and June 2012. The board of directors also noted on each grant date that the $1.00 per share valuation determination was higher than the value reflected in the September 2011 third-party valuation. In granting options at $1.00 per share, the primary valuation factors considered by our board of directors on each grant date were:

- the independent third-party valuation as of September 30, 2011;
- the continued growth of our business and revenues;
- the fact that we continued to operate at a loss, partially as a result of our continued investment in research and development and our sales organization;
- a discount rate, based on our estimated weighted average cost of capital;
- a lack of marketability discount;
- the exit value multiples set by our comparable companies; and
- management’s expectation that we would achieve forecasted revenue for the year ended December 31, 2012.

On March 15, 2012, the board of directors, in an effort to incentivize employees, approved the cancellation of all stock option grants to current employees and board members issued with exercise prices greater than $1.00 per share. The board of directors approved new grants for the same number of options to current employees and directors with an exercise price of $1.00 per share, immediate vesting, and which all expire in March 2022 or upon termination of employment.

Stock-Based Compensation

We apply the fair value recognition provisions of Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, *Compensation-Stock Compensation*, or ASC 718. Determining the amount of stock-based compensation to be recorded requires us to develop estimates of the fair value of stock options and other equity awards as of their grant date. Stock-based compensation expense is recognized ratably over the requisite service period, which in most cases is the vesting period of the award. Calculating the fair value of stock-based awards requires that we make highly subjective assumptions. Use of this valuation methodology requires that we make assumptions as to the volatility of our common stock, the expected term of our stock options, the risk free rate of return for a period that approximates the expected term of our stock options and our expected dividend yield. Because we are a privately-held company with no trading history, we utilize the historical stock price volatility from a representative group of public companies to estimate expected stock price volatility. We selected companies from the medical device industry, specifically those who are focused on the design, development and commercialization of products for the treatment of spine disorders, and who have similar characteristics to us, such as stage of life cycle and size. We intend to continue to utilize the historical volatility of the same or similar public companies to estimate expected volatility until a sufficient amount of historical information regarding the price of our publically traded stock becomes available. We use the simplified method as prescribed by the Securities and Exchange Commission Staff Accounting Bulletin No. 107, *Share-based Payment*, to calculate the expected term of stock option grants to employees as we do not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term of stock options granted to employees. We utilize a dividend yield of zero because we have never paid cash dividends and have no current intention to pay cash dividends. The risk-free rate of return used for each grant is based on the U.S. Treasury yield curve in effect at the time of grant for instruments with a similar expected life. We estimated the fair value of options granted using a Black-Scholes-Merton option pricing model with the following assumptions:

	Year ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
Weighted-average risk-free interest rate	1.32	1.14	1.35	*
Weighted-average expected life (in years)	6.30	5.34	6.39	*
Expected dividend yield	0%	0%	0%	*
Weighted-average expected volatility	70%	72%	72%	*
Weighted-average fair value of options granted	$ 0.64	$ 0.55	$ 0.64	*

* There were no stock option grants in the six months ended June 30, 2013.

The estimated fair value of stock-based awards for employee and non-employee director services are expensed over the requisite service period. Option awards issued to non-employees, excluding non-employee directors, are recorded at their fair value as determined in accordance with authoritative guidance, are periodically revalued as the options vest and are recognized as expense over the related service period. As a result, the charge to operations for non-employee awards with vesting conditions is affected each reporting period by changes in the fair value of our common stock.

Stock-based compensation expense associated with stock options granted to employees totaled $0.8 million, $1.0 million, $0.7 million and $0.1 million for fiscal years 2011 and 2012, and the six months ended June 30, 2012 and 2013, respectively. As of June 30, 2013, we had approximately $58,000 of total unrecognized stock-based compensation expense, which we expect to recognize over a weighted-average remaining vesting period of approximately 2.4 years. While our stock-based compensation for stock options granted to employees to date has not been material to our financial results, we expect the impact to grow in future periods due to the issuance of RSUs in 2013 for which no expense has been recorded to date, and the potential increases in the value of our common stock and headcount.

We are required to estimate the level of forfeitures expected to occur and record stock-based compensation expense only for those awards that we ultimately expect will vest. We estimate our forfeiture rate based on the type of award, employee class and historical experience. Through June 30, 2013, actual forfeitures have not been material.

In February 2013, our employees elected to exchange 2,422,000 options to purchase our common stock for restricted stock units, or RSUs, pursuant to a one-time tender offer authorized by our board of directors. The RSUs were issued under the 2012 Plan and have three-year terms and vest upon the earlier of a change of control or expiration of the lock-up period for our initial public offering. The incremental fair value on the date of the exchange between the original stock options and the RSUs issued will be recognized when vesting conditions are satisfied.

The following table sets forth information with respect to stock options granted to employees and directors from January 1, 2011 through June 30, 2013:

Date	Number of Options Granted	Exercise Price Per Share	Common Stock Fair Value per Share at Grant Date
1/1/2011	15,000	$ 1.00	$ 1.00
3/3/2011	31,100	$ 1.00	$ 1.00
6/16/2011	195,000	$ 1.00	$ 1.00
12/8/2011	1,001,500	$ 1.00	$ 1.00
3/15/2012	2,277,308	$ 1.00	$ 1.00
6/19/2012	54,000	$ 1.00	$ 1.00

We have not granted any options to purchase our common stock since June 2012. At June 30, 2013, we had 3,401,950 RSUs outstanding that will vest upon expiration of the lock-up period for this offering. We will take compensation charges upon vesting of RSUs based upon their grant date fair value.

Common Stock Warrant Liability and Preferred Stock Warrant Liability

As of June 30, 2013, we had warrants outstanding to purchase shares of our Series C, Series D, Series E and Series F convertible preferred stock and common stock. Freestanding warrants that are related to the purchase of redeemable preferred stock are classified as liabilities and recorded at fair value regardless of the timing of the redemption feature or the redemption price or the likelihood of redemption. The warrants are subject to re-measurement at each balance sheet date and any change in fair value is recognized as a component of other income (expense), net in our statement of comprehensive loss. We measure the fair value of our warrants to purchase our convertible preferred stock using a Black-Scholes-Merton option pricing model. The warrants to purchase shares of our common stock contain a provision requiring an adjustment to the number of shares in the event we issue common stock, or securities convertible into or exercisable for common stock, at a price per share lower than the warrant exercise price. The anti-dilution feature requires the warrants to be classified as liabilities and re-measured at fair value at each balance sheet date. The fair value of the warrants to purchase common stock on the date of issuance and on each re-measurement date is classified as a liability and is estimated using the Black-Scholes-Merton valuation model. Any modifications to the warrant liabilities are recorded in earnings during the period of the modification. The significant assumptions used in estimating the fair value of our warrant liabilities include the exercise price, volatility of the stock underlying the warrant, risk-free interest rate, estimated fair value of the stock underlying the warrant, and the estimated life of the warrant.

The consummation of this offering will result in the conversion of all classes of our convertible preferred stock into common stock. Upon such conversion of the underlying classes of convertible preferred stock, pursuant to the terms of the preferred stock warrants, the remaining warrants to purchase our Series C, Series D, Series E and Series F convertible preferred stock will be classified as a component of equity and no longer be subject to re-measurement. However, the common stock warrant liability will continue to be required to be re-measured at each balance sheet date, until such time that the common stock warrants are exercised or expire.

Recently Issued Accounting Pronouncements

In February 2013, the FASB issued an update to improve the transparency of reporting reclassifications out of accumulated other comprehensive income. The amendments in the update did not change the current requirements for reporting net income or other comprehensive income in financial statements. The new amendments require an organization to present (either on the face of the statement where net income is presented or in the notes) the effects on the line items of net income of significant amounts reclassified out of accumulated other comprehensive income if the item reclassified is required under generally accepted accounting principles in the United States, or U.S. GAAP, to be reclassified to net income in its entirety in the same reporting period. Additionally, for other amounts that are not required under U.S. GAAP to be reclassified in their entirety to net income in the same reporting period, an entity is required to cross-reference other disclosures required under U.S. GAAP to provide additional detail about those amounts. The amendments are effective for reporting periods beginning after December 15, 2012. We do not expect that the adoption of this guidance will have a material impact on the consolidated financial statements.

Jumpstart Our Business Startups Act of 2012

On April 5, 2012, the Jumpstart Our Business Startups Act of 2012, or JOBS Act, was enacted. Section 107 of the JOBS Act, provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are electing to delay such adoption of new or revised accounting standards, and as a result, we may not comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. As a result of this election, our financial statements may not be comparable to the financial statements of other public companies. We may take advantage of these reporting exemptions until we are no longer an "emerging growth company.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, as an "emerging growth company," we intend to rely on certain of these exemptions, including without limitation, (1) providing an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and (2) complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the consolidated financial statements, known as the auditor discussion and analysis. We may be able to remain an "emerging growth company" until the earliest of (a) the last day of the fiscal year in which we have total annual gross revenues of $1 billion or more, (b) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering, (c) the date on which we have issued more than $1 billion in non-convertible debt during the previous three years or (d) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risk in the ordinary course of our business. We do not hold or issue financial instruments for trading purposes. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market exposure is primarily a result of fluctuations in interest rates, however, we do not believe there is material exposure to interest rate risk. We also do not believe we are exposed to material risk resulting from fluctuations in foreign currency exchange rates due to the level of our international sales.

Controls and Procedures

Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with U.S. GAAP. We are currently in the process of reviewing, documenting and testing our internal control over financial reporting. We have not performed an evaluation of our internal control over financial reporting, such as required by Section 404 of the Sarbanes-Oxley Act, nor have we engaged an independent registered public accounting firm to perform an audit of our internal control over financial reporting as of any balance sheet date or for any period reported in our financial statements. Presently, we are not an accelerated filer, as such term is defined by Rule 12b-2 of the Securities Exchange Act of 1934, as amended, and therefore, our management is not presently required to perform an annual assessment of the effectiveness of our internal control over financial reporting. This requirement will first apply to our Annual Report on Form 10-K for the year ending December 31, 2014. Our independent public registered accounting firm will first be required to attest to the effectiveness of our internal control over financial reporting for our Annual Report on Form 10-K for the first year we are no longer an "emerging growth company" under the JOBS Act. However, in connection with our audit for the year ended December 31, 2012 and the review of our June 30, 2013 financial statements, our independent registered public accounting firm noted four material weaknesses and one significant deficiency in our internal control over financial reporting. See "Risk Factors—Our internal control over financial reporting does not currently meet the standards required by Section 404 in the Sarbanes-Oxley Act, and failure to achieve and maintain effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act could result in material misstatements of our annual or interim financial statements and have a material adverse effect on our business and share price," for a discussion of these matters.

BUSINESS

Overview

We are a commercial biomaterial company focused on using our silicon nitride technology platform to develop, manufacture and sell a broad range of medical devices. We currently market spinal fusion products and are developing products for use in total hip and knee joint replacements. We believe our silicon nitride technology platform enables us to offer new and transformative products in the orthopedic and other medical device markets. We believe we are the first and only company to use silicon nitride in medical applications and over 11,500 of our silicon nitride spine products have been successfully implanted in patients.

Biomaterials are synthetic or natural materials available in a variety of forms that are used in virtually every medical specialty. We believe our silicon nitride biomaterial has superior characteristics compared to commonly used biomaterials in the markets we are targeting, including polyetheretherketone, or PEEK, which is the most common biomaterial used for interbody spinal fusion products. Specifically, we believe our silicon nitride has the following key attributes: promotion of bone growth; hardness, strength and resistance to fracture; resistance to wear; non-corrosive; anti-infective properties; and superior diagnostic imaging compatibility.

We produce silicon nitride in four forms: (1) a fully dense, load-bearing solid, referred to as MC^2; (2) a porous bone-like cancellous structured form, referred to as C^SC; (3) a composite incorporating both our solid MC^2 material and our porous C^SC material intended to promote an ideal environment for bone growth; and (4) a coating for application onto other biomaterials. This capability provides us with the ability to utilize our silicon nitride in distinct ways depending on its intended application, which, together with our silicon nitride's key characteristics, distinguishes us from manufacturers of other biomaterials and our products from products using other biomaterials.

Based on industry publications, in 2012, the markets for spinal implants in the United States and in combined major European markets were over $5.0 billion and $500.0 million, respectively. Interbody spinal fusions accounted for over $1.0 billion and $100 million of these markets, respectively. Additionally, Orthopedic Network News reported that the U.S. markets for total hip and knee replacements in 2012 were $2.7 billion and $4.0 billion, respectively, which includes the $455.0 million U.S. and $1.5 billion European markets for the components of total hip and knee replacements that we are developing.

We currently market our *Valeo* MC^2 silicon nitride interbody spinal fusion devices in the United States and Europe for use in the cervical and thoracolumbar areas of the spine. We believe our *Valeo* devices have a number of advantages over existing products due to silicon nitride's key characteristics, resulting in faster and more effective fusion and reduced risk of infection. Our first generation *Valeo* silicon nitride device received 510(k) regulatory clearance and a CE Mark in 2008. Based on surgeon feedback, we developed a second generation of *Valeo* products with design enhancements that improve surgeon control during implantation and stability post procedure. Earlier this year, we initiated a targeted launch of our second generation *Valeo* interbody fusion devices and expect to complete the full launch in the first half of 2014. We also market our *Valeo* composite interbody spinal fusion device made from both our solid MC^2 and porous C^SC silicon nitride in the Netherlands, Spain and Germany. This device may reduce or eliminate the need for allograft bone, which is taken from human cadavers, and other biomaterials to act as a scaffold to support bone growth as part of the surgical procedure. We are currently conducting a clinical trial in Europe to obtain additional data to support 510(k) clearance of this product in the United States. We completed enrollment in this trial in September 2013 and expect results to be available in the second half of 2014. If this trial is successful, we plan to file a 510(k) submission with the U.S. Food and Drug Administration, or FDA, by mid-2015. In addition, in the first half of 2013, we initiated a Design and Build Program focused on collaborating with influential surgeons to develop customized silicon nitride spinal fusion products and instruments and the first products designed under this program were sold in the third quarter of 2013. To date, the rate of adverse events reportable to the FDA for our implanted *Valeo* interbody spinal fusion devices is 0.1%, which is significantly lower than the rate of reportable adverse events of implanted interbody spinal fusion devices incorporating PEEK, which is the most common biomaterial used for these types of devices.

In addition to our silicon nitride-based spinal fusion products, we market a complementary line of non-silicon nitride spinal fusion products which allows us to provide surgeons and hospitals with a broader range of products. Our product revenue was $23.1 million and $11.3 million for the year ended December 31, 2012 and for the six months ended June 30, 2013, respectively, of which sales of our silicon nitride products accounted for $6.6 million and $3.5 million, respectively.

We are also incorporating our silicon nitride technology into components for use in total hip and knee replacement product candidates that we are, or plan on, developing in collaboration with a strategic partner. If approved by the FDA, we believe that our silicon nitride total hip and knee product candidates will provide competitive advantages over current products made with traditional biomaterials. We also believe our silicon nitride technology platform can be used for developing products in other markets and have developed prototypes for use in the dental, sports medicine and trauma markets. In addition, as a result of some of the key characteristics of our silicon nitride, including the promotion of bone growth, resistance to wear, non-corrosiveness and anti-infective properties, we believe our silicon nitride coating may be used to enhance our metal products as well as commercially available metal spinal fusion, joint replacement and other medical products.

We have recently put in place a senior management team with over 150 years of collective experience in the healthcare industry. Members of our management team have experience in product development, launching new products into the orthopedics market and selling to hospitals through direct sales organizations, distributors, manufacturers and other companies in the orthopedic space. We operate a 30,000 square foot manufacturing facility located at our corporate headquarters in Salt Lake City, Utah, and we are the only vertically integrated silicon nitride orthopedic medical device manufacturer in the world. We market and sell our products to surgeons and hospitals in the United States and select markets in Europe and South America through our established network of more than 50 independent sales distributors who are managed by our in-house sales and marketing management team.

Biomaterials

Biomaterials are synthetic or natural biocompatible materials that are used in virtually every medical specialty to improve or preserve body functionality. Various types of biomaterials are used as essential components in medical devices, drug delivery systems, replacement and tissue repair technologies, prostheses and diagnostic technologies.

There are four general categories of biomaterials:

- *Metals.* Metals commonly used as biomaterials include titanium, stainless steel, cobalt, chrome, gold, silver and platinum, and alloys of these metals. Examples of medical uses of metals include the repair or stabilization of fractured bones, stents, surgical instruments, bone and joint replacements, spinal fusion devices, dental implants and restorations and heart valves. According to MarketsandMarkets, a global market research firm, metals represented approximately 31% of the worldwide sales of all biomaterials in 2012.

- *Polymers*. Polymers are synthetic compounds consisting of similar molecules linked together that can be created to have specific properties. Polymers commonly used as biomaterials include nylon, silicon rubber, polyester, polyethylene, cross-linked polyethylene (a stronger version), polymethylmethacrylate, polyvinyl chloride and polyetheretherketone, which is commonly referred to as PEEK. Examples of medical uses of polymers include soft-tissue replacement, sutures, drug delivery systems, joint replacements, spinal fusion devices and dental restorations. Polymers represented approximately 29% of the worldwide sales of all biomaterials in 2012.

- *Ceramics*. Ceramics are hard, non-metallic, non-corrosive, heat-resistant materials made by shaping and then applying high temperatures. Traditional ceramics commonly used as biomaterials include carbon, oxides of aluminum, zirconium and titanium, calcium phosphate and zirconia-toughened alumina. Examples of medical uses of ceramics include repair, augmentation or stabilization of fractured bones, bone and joint replacements, spinal fusion devices, dental implants and restorations, heart valves and surgical instruments. Ceramics represented approximately 26% of the worldwide sales of all biomaterials in 2012.

- *Natural biomaterials*. Natural biomaterials are derived from human donors, animal or plant sources and include human bone, collagen, gelatin, cellulose, chitin, alginate and hyaluronic acid. Examples of medical uses of natural biomaterials include the addition or substitution of hard and soft tissue, cornea protectors, vascular grafts, repair and replacement of tendons and ligaments, bone and joint replacements, spinal fusion devices, dental restorations and heart valves. Natural biomaterials represented approximately 14% of the worldwide sales of all biomaterials in 2012.

According to MarketsandMarkets, orthopedics accounted for approximately $15.0 billion, or 34%, of the $44.0 billion total biomaterials market in 2012. Within orthopedics, biomaterials are extensively used in spinal fusion procedures, hip and knee replacements and the repair or stabilization of fractured bones.

Market Opportunity

Overview

We believe our silicon nitride technology platform provides us with numerous competitive advantages in the orthopedic biomaterials market. We market interbody spinal fusion devices and related products and are developing products for use as components in total hip and knee joint replacements. We believe we can also utilize our silicon nitride technology platform to develop future products in additional markets, such as the dental, sports medicine and trauma markets.

Based on industry publications, in 2012, the markets for spinal implants in the United States and in combined major European markets were over $5.0 billion and $500.0 million, respectively. Interbody spinal fusion products accounted for over $1.0 billion and $100.0 million of these markets, respectively. In 2012, there were more than 400,000 interbody spinal fusion procedures conducted in the United States, of which the significant majority utilized interbody devices comprised of PEEK and bone, with occasional use of metals and other materials including ceramics. The market for interbody spinal fusion devices has shifted over time as new biomaterials with superior characteristics have been incorporated into these devices and have launched into the market. For example, in the 1990s, metals quickly penetrated the interbody spinal fusion market because of the limitations of devices available at that time made from allograft bone and, more recently, products made of PEEK rapidly penetrated the market because of the limitations of devices available at that time made from metal or allograft bone. Similarly, we believe our silicon nitride interbody spinal fusion products address the key limitations of other biomaterials currently used in interbody spinal fusion devices and demonstrate superior characteristics needed to improve clinical outcomes.

Additionally, Orthopedic Network News reported that the U.S. markets for total hip and knee replacements in 2012 were $2.7 billion and $4.0 billion, respectively. According to Orthopedic Network News, in 2012, there were more than 470,000 total hip replacement procedures and 734,000 total knee replacement procedures conducted in the United States. Orthopedic Network News also reported that in 2012, the U.S. markets for the components of total hip and knee replacement product candidates that we are initially developing were $455.0 million and $1.5 billion, respectively. The combinations of biomaterials most commonly used in joint replacement implants are metal-on-cross-linked polyethylene and traditional ceramic-on-cross-linked polyethylene.

We believe that the main drivers for the growth of the orthopedic biomaterials market, and, in particular, the spinal fusion and joint replacement markets, are the following:

- *Favorable and Changing Demographics*. With the growing number of elderly people, age-related ailments are expected to rise sharply, which we believe will increase the demand and need for biomaterials and devices with improved performance capabilities. Also, middle-aged and older patients increasingly expect to enjoy active lifestyles, and consequently demand effective treatments for painful spine and joint conditions, including better performing and longer-lasting interbody spinal fusion devices and joint replacements.
- *Introduction of New Technologies*. Better performing and longer-lasting biomaterials, improved diagnostics, and advances in surgical procedures allow for surgical intervention earlier in the continuum of care and better outcomes for patients. We believe surgical options using better performing and longer-lasting biomaterials will gain acceptance among surgeons and younger patients and drive accelerated growth and increase the size of the spinal fusion and joint replacement markets.

- *Market Expansion into New Geographic Areas*. MarketsandMarkets anticipates that demand for biomaterials and the associated medical devices will increase as the applications in which biomaterials are used are introduced to and become more widely accepted in underserved countries, such as China.

The Interbody Spinal Fusion Market

The human spinal canal is made up of 33 interlocking bones, referred to as vertebrae, separated by 23 intervertebral discs comprised of a hard outer ring made of collagen with a soft inner core, that act as shock absorbers between vertebrae. Disorders of the spine can result from degenerative conditions, deformities and trauma or tumor-related damage. Spinal fusion is the standard of care used to treat most spinal disorders and typically involves the placement of an interbody device between vertebrae to reestablish spacing between vertebrae and alignment of the spine. Generally, the interbody device is stabilized by screws and, in some procedures, plates or rods. To enhance bone attachment, surgeons often pack the interbody device with a biomaterial that induces bone growth. Following successful treatment, new bone tissue grows in and around the interbody device over time, which helps fuse the vertebrae and create long-term stability of the interbody device, leading to the alleviation of pain and increase in mobility.

We selected this market as the first application for our silicon nitride technology because of its size, the limitations of currently available products and the key characteristics silicon nitride possesses which are critical for a superior interbody spinal fusion device.

- *Promotion of Bone Growth*. The biomaterial should be both osteoconductive and create an osteoinductive environment to promote bone growth in and around the interbody device to further support fusion and stability. Osteoconduction occurs when material serves as a scaffold to support the growth of new bone in and around the material. Osteoinduction involves the stimulation of osteoprogenitor cells to develop, or differentiate, into osteoblasts, which are cells that are needed for bone growth.

- *Strength and Resistance to Fracture*. The biomaterial should be strong and resistant to fracture during implantation of the device and to successfully restore intervertebral disc space and spinal alignment during the fusion process. The biomaterial should have high flexural strength, which is the ability to resist breakage during bending, and high compressive strength, which is the ability to resist compression under pressure, to withstand the static and dynamic forces exerted on the spine during daily activities over the long term.

- *Anti-Infective*. Spinal fusion devices can become colonized with bacteria, which may limit fusion to adjacent vertebrae or cause serious infection. Treating device-related infection is costly and generally requires repeat surgery, including surgery to replace the device, referred to as revision surgery, which may extend hospital stays, suffering and disability for patients. A biomaterial that has anti-infective properties can reduce the incidence of bacteria colonization in and around the interbody device that can lead to infection, revision surgery and associated increased costs. Publicly available articles report infection rates following implantation of traditional spinal fusion devices ranging from 3% to 18%.

- *Imaging Compatibility*. The biomaterial should be visible through, and not inhibit the effective use of, common surgical and diagnostic imaging techniques, such as x-ray, CT and MRI. These imaging techniques are used by surgeons during and after spinal fusion procedures to assist in the proper placement of interbody devices and to assess the quality of post-operative bone fusion.

Limitations of Biomaterials used in Interbody Spinal Fusion Devices

The three biomaterials most commonly used in interbody spinal fusion devices are PEEK, human cadaver bone, also referred to as allograft bone, and metals. We believe these materials do not possess the key characteristics required to form the optimal interbody spinal fusion device and are susceptible to potential fracture, implant-related infection, pain, limited fusion and instability, which have resulted in revision surgeries.

PEEK (polyetheretherketone)

PEEK is the most frequently used biomaterial for interbody spinal fusion devices and accounted for almost half of the devices implanted in the United States in 2012. We believe that the rate of revision surgery for PEEK interbody spinal fusion devices is approximately 6%. We believe this is caused by the following limitations of PEEK:

- *Restricts Bone Growth*. Due to PEEK's hydrophobic nature, the human body may recognize PEEK as a foreign substance and, therefore, may encapsulate the device with fibrous tissue. Although it is still possible for bone to grow through the device, bone may not adhere to the surface of the device if this tissue develops.

- *Lacks Strength and Resistance to Fracture*. PEEK lacks sufficient flexural strength, compressive strength and resistance to fracture necessary to reduce the risk of deformity or fracture during the fusion process. In addition, PEEK devices may fracture during implantation in certain interbody spinal fusion procedures. For example, in December 2012, Zimmer Spine recalled its PEEK Ardis® Interbody System Inserter, a surgical instrument used to implant a PEEK interbody spinal fusion device, because it resulted in the PEEK implants being susceptible to breakage when too much lateral force was applied to the inserter during implantation.

- *Lacks Anti-Infective Properties*. PEEK does not have any inherent anti-infective properties. In fact, a biofilm may form around a PEEK device that allows the colonization of bacteria, which can lead to infection.

- *Lacks Imaging Compatibility*. PEEK is invisible on x-rays. As a result, manufacturers of PEEK devices add metal markers to their devices so surgeons can see the location of the devices by x-ray. These markers, however, do not show the full outline of the device, which makes it difficult to assess the accuracy of the placement of the device. In addition, the metal markers cause artifacts on CT and MRI that can compromise the quality of the image.

Allograft Bone

Allograft bone is the second most frequently used biomaterial in interbody spinal fusion devices and accounted for over 40% of the devices implanted in the United States in 2012. Allograft bone has the following limitations:

- *Limited Promotion of Bone Growth*. Allograft bone has limited osteoinductive characteristics and therefore may not effectively promote bone growth in and around the interbody device.

- *Lacks Strength and Resistance to Fracture*. Generally, allograft bone is not as strong as live bone within the body or other materials used in interbody devices. In addition, techniques used to sterilize allograft bone, like gamma irradiation, can cause the allograft to become brittle and more likely to fracture.

- *Lacks Anti-Infective Properties and Risk of Disease Transmission.* In addition to not having inherent anti-infective properties, allograft bone exposes patients to a greater risk of disease transmission and auto-immune response.

In addition, allograft bone is subject to inconsistent quality and size, which may require surgeons to make compromises on the fit of the device during surgery.

Metals

We believe metal interbody devices accounted for less than 10% of the devices implanted in the United States in 2012. Metals have the following limitations:

- *Limited Promotion of Bone Growth*. Metals have limited osteoinductive characteristics and therefore do not effectively promote bone growth in and around the interbody device.

- *Lack Anti-Infective Properties*. Metals do not have inherent anti-infective properties and do not suppress the colonization of bacteria in and around the device which can lead to infection.

- *Lack Imaging Compatibility.* Metals are opaque in x-rays and can cause significant imaging artifacts in CTs and MRIs. This can make it difficult for surgeons to detect the extent and quality of bone growth in and around the device in post-operative diagnostic imaging procedures.

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The Hip and Knee Joint Replacement Market

Total joint replacement involves removing the diseased or damaged joint and replacing it with an artificial implant consisting of components made from several different types of biomaterials. The key components of a total hip implant include an artificial femoral head, consisting of a ball mounted on an artificial stem attached to the femur, and a liner, which is placed inside a cup affixed into the pelvic bone. The femoral head and liner move against each other to replicate natural motion in what is known as an articulating implant. Total knee replacement implants also use articulating components and are comprised of the following four main components: a femoral condyle, which is a specially shaped bearing that is affixed to the lower end of the femur; a tibial tray that is affixed to the upper end of the tibia; a tibial insert that is rigidly fixed to the tibial tray and serves as the surface against which the femoral condyle articulates; and a patella, or knee cap, which also articulates against the femoral condyle.

Implants for total hip and knee replacements are primarily differentiated by the biomaterials used in the components that articulate against one another. The combinations of biomaterials most commonly used in hip and knee replacement implants in the United States are metal-on-cross-linked polyethylene and traditional ceramic-on-cross-linked polyethylene. The use of hip replacement implants incorporating metal-on-metal and traditional ceramic-on-traditional ceramic biomaterials experienced a steep decline in the United States over the last several years due to their significant limitations. We believe that the most common currently used biomaterials in joint replacement implants also have limitations, and do not possess all of the following key characteristics required for optimal total joint replacement implants:

- *Resistance to Wear*. The biomaterials should have sufficient hardness and toughness, as well as extremely smooth surfaces, to effectively resist wear. Because the articulating implants move against each other, they are subject to friction, which frequently lead to abrasive wear and the release of small wear particles. This may cause an inflammatory response which results in osteolysis, or bone loss. Surgeons have identified osteolysis as a leading cause of joint implant failure, resulting in the need for revision surgery to replace the failed implant. One of the most commonly used combinations of biomaterials, metal-on-cross-linked polyethylene, as well as metal-on-metal implants tend to generate a large number of metal wear particles, which can cause osteolysis and a moderate to severe allergic reaction to the metal, referred to as metal sensitivity. While less common, metal implants may also cause a serious condition called metallosis. Both metal sensitivity and metallosis can result in revision surgery.
- *Non-Corrosive*. The biomaterials should be non-corrosive and should not cause adverse patient reactions. Metal placed in the human body corrodes over time and also results in the formation of metal ions, which leads to metal sensitivity in approximately 10% to 15% of the population and, less commonly, metallosis. As a result, there are significant increased risks from using metal-on-cross-linked polyethylene and metal-on-metal implants.
- *Hardness, Strength and Resistance to Fracture*. The biomaterials should be hard, strong and resistant to fracture to adequately bear the significant loads placed on joints like the hip and knee during daily activities. We believe there are strength limitations associated with traditional ceramic-on-cross-linked polyethylene and traditional ceramic-on-traditional ceramic implants.
- *Anti-Infective*. The biomaterials should have anti-infective properties to reduce the risk of bacteria colonization in and around the components that can lead to infection, revision surgeries and associated increased costs. Anti-infective properties reduce the risk of bacteria colonization in and around the components and reduce the likelihood of infection, revision surgeries and associated increased costs. None of the most commonly used biomaterials in joint replacement implants have anti-infective properties.

Our Silicon Nitride Technology Platform

We believe we are the first and only company to use silicon nitride in medical applications. Silicon nitride is a chemical compound comprised of the elements silicon and nitrogen, with the chemical formula Si_3N_4. Silicon nitride, an advanced ceramic, is lightweight, resistant to fracture and strong, and is used in many demanding mechanical, thermal and wear applications, such as in space shuttle bearings, jet engine components and body armor.

We believe our silicon nitride is ideally suited for use in many medical applications and has the following characteristics that make it superior to other biomaterials, including PEEK, bone, metal and traditional ceramics:

- *Promotes Bone Growth*. Our silicon nitride is osteoconductive through its inherent surface topography that provides support for new bone growth. We also believe our silicon nitride promotes an ideal environment for osteoinduction. As a hydrophilic material, silicon nitride attracts protein cells and nutrients that stimulate osteoprogenitor cells to differentiate into osteoblasts, which are needed for bone growth. Our silicon nitride also has an inherent surface chemistry that is more similar to bone than PEEK and metals are. As a result, we believe our silicon nitride has superior osteoconductive and osteoinductive properties when compared to other biomaterials, including those commonly used in interbody spinal fusion devices, such as PEEK, allograft bone and metal. These properties are highlighted in an *in vivo* study, where we measured the force required to separate devices from the spine after being implanted for three months, which indicates the level of osteointegration. In the absense of bacteria, the force required to separate our silicon nitride from its surrounding bone was approximately three times that of PEEK, and nearly two times that of titanium. In the presence of bacteria, the force required to separate our silicon nitride from its surrounding bone was over five times that of titanium, while there was effectively no separation force required for PEEK, indicating essentially no osteointegration.
- *Hard, Strong and Resistant to Fracture*. Our silicon nitride is hard, strong and possesses superior resistance to fracture over traditional ceramics and greater strength than polymers currently on the market. For example, our silicon nitride's flexural strength is more than five times that of PEEK and our silicon nitride's compressive strength is over twenty times that of PEEK. Unlike PEEK interbody spinal fusion devices, we believe our silicon nitride inbody spinal fusion devices can withstand the forces exerted during implantation and daily activities over the long term.
- *Anti-Infective*. We have demonstrated in *in vitro* and *in vivo* studies that silicon nitride has inherent anti-infective properties, which reduce the risk of infection in and around a silicon nitride device. PEEK, traditional ceramics, metals and bone do not have inherent anti-infective characteristics. These properties were highlighted in an *in vitro* study, where live bacteria counts were between 8 and 30 times lower on our silicon nitride than PEEK and up to 8 times lower on our silicon nitride than titanium. In addition to improving patient outcomes, we believe the anti-infective properties of our silicon nitride should make it an attractive biomaterial to hospitals and surgeons who are not reimbursed by third-party payors for the treatment of hospital-acquired infections. Additionally, silicon nitride is synthetic and, therefore, there is a lower risk of disease transmission through cross-contamination or of an adverse auto-immune response, sometimes associated with the use of allograft bone.
- *Imaging Compatible.* Our silicon nitride interbody spinal fusion devices are semi-radiolucent and clearly visible in x-rays, and produce no distortion under MRI and no scattering under CT. These characteristics enable an exact view of the device for precise intra-operative placement and post-operative bone fusion assessment in spinal fusion procedures. We believe these qualities provide surgeons with greater certainty of outcomes with our silicon nitride devices than with other biomaterials, such as PEEK and metals.
- *Resistant to Wear*. We believe our silicon nitride joint implant product candidates will have comparable or higher resistance to wear than metal-on-cross-linked polyethylene and traditional ceramic-on-cross-linked polyethylene joint implants, the two most commonly used total hip replacement implants. Also, debris associated with metal implants increases the risk of metal sensitivity and metallosis. Wear debris is a primary reason for early failures of metal and polymer articulating joint components.
- *Non-Corrosive*. Our silicon nitride does not have the drawbacks associated with the corrosive nature of metal within the body, including metal sensitivity and metallosis, nor does it result in the release of metal ions into the body. As a result, we believe our silicon nitride products will have lower revision rates and fewer complications than comparable metal products.

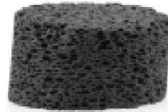
Our Forms of Silicon Nitride

The chemical composition of our in-house formulation of silicon nitride, processing and manufacturing experience allow us to produce silicon nitride in four distinct forms. This capability provides us with the ability to utilize our silicon nitride in a variety ways depending on its intended application, which, together with our silicon nitride's key characteristics, distinguishes us from manufacturers of products using other biomaterials.

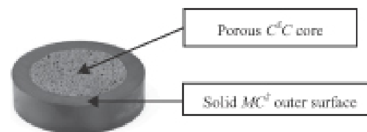
We currently produce silicon nitride for use in our commercial products and product candidates in the following forms:

- *Solid Silicon Nitride, or MC^2*. This form of silicon nitride is a fully dense, load-bearing solid, and is used for devices that require high strength, toughness, fracture resistance and low wear, including for interbody spinal fusion devices, hip and knee replacement implants and dental implants.

- *Porous Silicon Nitride, or C^SC*. While this form of silicon nitride has a chemical composition that is identical to that of *MC^2*, the *C^SC* form of silicon nitride has a porous structure, which is engineered to mimic cancellous bone, the spongy like bone tissue that typically makes up the interior of human bones. Our porous silicon nitride has interconnected pores ranging in size between about 90 and 600 microns, which is similar to that of cancellous bone. This form of silicon nitride can be used for the promotion of bone in-growth and attachment. Our porous silicon nitride is used as a substitute for the orthobiologics currently used to fill interbody devices in an effort to stimulate fusion and as a bone void filler, and as a porous scaffold for medical devices.



- *Composite Silicon Nitride.* This form of silicon nitride is a combination, or composite, of *MC^2* and *C^SC* forms of silicon nitride. This composite may be used to manufacture devices and implants that mimic the structure of natural bone by incorporating both a fully dense, load-bearing solid *MC^2* component on the outside and a porous *C^SC* component intended to promote bone in-growth on the inside. This composite form of silicon nitride is used in interbody spinal fusion devices and can be used in components for total hip and knee replacement implants.



- *Silicon Nitride Coating*. With a similar chemical composition as our other forms of silicon nitride, this form of silicon nitride can be applied as an adherent coating to metallic substrates, including cobalt-chromium, titanium and steel alloys. We believe applying silicon nitride as a coating may provide a highly wear-resistant articulation surface, such as on femoral heads, which may reduce problems associated with metal or polymer wear debris. We also believe that the silicon nitride coating can be applied to devices that require firm fixation and functional connections between the device or implant and the surrounding tissue, such as hip stems and screws. The use of silicon nitride coating may also create an anti-infective barrier between the device and the adjacent bone or tissue.

Our Competitive Strengths

We believe we can use our silicon nitride technology platform to become a leading biomaterial company and have the following principal strengths:

- *Sole Provider of Silicon Nitride Medical Devices*. We believe we are the only company that designs, develops, manufactures and sells medical grade silicon nitride-based products. Due to its key characteristics, we believe our silicon nitride enables us to offer new and transformative products across multiple medical specialties. In addition, with the FDA clearance of our silicon nitride *Valeo* products, we are one of only three companies that have developed and manufacture a ceramic for use in FDA cleared orthopedic medical devices in the United States.

- *In-House Manufacturing Capabilities.* We operate a 30,000 square foot manufacturing facility located at our corporate headquarters in Salt Lake City, Utah. This operation complies with the FDA's quality system regulation, or QSR, and is certified under the International Organization for Standardization's, or ISO, standard 13485 for medical devices. This state-of-the-art facility allows us to rapidly design and produce silicon nitride products and control the entire manufacturing process from raw material to finished goods.

- *Established Commercial Infrastructure*. We market and sell our products to surgeons and hospitals in the United States, and select markets in Europe and South America through our established network of more than 50 independent sales distributors who are managed by our experienced in-house sales and marketing management team. As a result, our product revenue is driven by end-user prices, unlike other biomaterial companies that sell their products at lower prices to OEMs who then sell their products to the end user. Our control over the sales and marketing processes also allows us greater flexibility to selectively collaborate with distributors when we believe their experience or geographic reach can be beneficial to us.

- *Portfolio of Non-Silicon Nitride Products*. In addition to designing, developing, manufacturing and commercializing silicon nitride interbody spinal fusion devices, we sell a complementary line of non-silicon nitride spinal fusion products. We offer a full suite of spinal fusion products, which increases our access to surgeons and hospitals, and allows us to more effectively market our silicon nitride spinal fusion products to our customers. Product revenue from the sale of these non-silicon nitride products also supports further development of our silicon nitride products and product candidates.

- *Highly Experienced Management and Surgeon Advisory Team* . We have recently assembled a senior management team with over 150 years of collective experience in the healthcare industry. Members of our management team have experience in product development, launching new products into the orthopedics market and selling to hospitals through direct sales organizations, distributors, manufacturers and other orthopedic companies. We also collaborate with a network of leading surgeon advisors in the design and use of our products and product candidates.

Our Strategy

Our goal is to become a leading biomaterial company focused on using our silicon nitride technology platform to develop, manufacture and commercialize a broad range of medical devices. Key elements of our strategy to achieve this goal are the following:

- *Drive Further Adoption of our Silicon Nitride Interbody Spinal Fusion Devices*. We believe that increasing the awareness of our silicon nitride technology by educating surgeons about its key benefits, and design improvements to our silicon nitride products and related instruments, will accelerate the adoption of our products and ultimately help improve patient outcomes. We continue to innovate with further design enhancements in the introduction of our second-generation interbody spinal fusion devices. We are currently selling this new line to select surgeons and expect to complete the full launch of the line in the United States in the first half of 2014. To drive further awareness of our products and the associated benefits offered by our silicon nitride technologies, we will continue to educate surgeons through multiple channels including industry conferences and meetings, media outlets and through our sales and marketing efforts. We also plan to facilitate the publication of data from bench testing and clinical outcome case studies.
- *Continue to Implement our Design and Build Program*. In the first half of 2013, we initiated a commercialization strategy, referred to as our Design and Build Program, in which we collaborate with influential surgeons to develop customized silicon nitride spinal fusion products and instruments. We first sell these products for use by the designing surgeons and a team of evaluating surgeons. After the enhanced products are sold and evaluated and, if accepted by these surgeons, we plan to introduce these products more broadly into the market. The first products designed under this program were sold for initial evaluation in 2013.
- *Enhance our Commercial Infrastructure*. We expect to increase the productivity of our sales and marketing infrastructure to help us further penetrate the interbody spinal fusion market by continuing to engage experienced independent sales distributors with strong orthopedic surgeon relationships. We also periodically conduct programs to ensure that our distributors are knowledgeable about how the characteristics of our silicon nitride devices meet the demands of a range of spinal fusion procedures, and we regularly update our distributors about studies, test results, reviews and other developments that demonstrate the competitive advantages of our silicon nitride devices. We may also establish distribution collaborations in the United States and abroad when access to large or well-established sales and marketing organizations may help us gain access to new markets, increase sales in our existing markets, or accelerate market penetration for selected products.
- *Develop Silicon Nitride for Total Joint Components*. We are incorporating our silicon nitride technology into components for use in total hip and knee replacement product candidates that we are, or plan on, developing in collaboration with a strategic partner. We are planning to confirm our regulatory strategy in the United States with the FDA for our total hip replacement implant product candidates by the end of 2013. We plan to conduct a clinical trial of the *MC*^{2} hip product candidate to obtain FDA clearance and plan to meet with the FDA to determine the regulatory pathway for the silicon nitride-coated hip product candidate.
- *Apply our Silicon Nitride Technology Platform to Other Opportunities.* Our silicon nitride technology platform is adaptable and we believe it may be used to develop products to address other significant opportunities, such as in the dental, sports medicine and trauma markets. We have manufactured prototypes of dental implants, sports medicine and trauma products, and we have developed a process to coat metals with our silicon nitride to enhance current medical devices and instruments. We plan to collaborate with other companies to develop and commercialize any future products in those areas.

Our Products and Product Candidates

We currently market a family of silicon nitride interbody spinal fusion devices and other non-silicon nitride spinal fusion products for use in cervical and lumbar spinal fusion surgical procedures to treat patients who suffer from degenerative, diseased and traumatic spine conditions. We are also developing multiple silicon nitride components for use in our total hip and knee replacement product candidates.

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Spinal Fusion Products and Product Candidates

Our Valeo Silicon Nitride Products and Product Candidates

Our first generation *Valeo* silicon nitride spinal fusion device received 510(k) regulatory clearance and a CE mark in 2008. Based on surgeon feedback, we developed a second generation of *Valeo* products. In 2012, we received 510(k) clearance to market this second generation family of *Valeo* interbody spinal fusion devices, and we launched them with a select number of surgeons in 2013. Our second generation *Valeo* interbody spinal fusion devices offer distinct improvements over the first generation. The instrumentation of the second generation devices allow for better control of the device during implantation. The device allows for improved stability and potentially improved fusion after implantation and is offered in a broader selection of sizes. We expect to complete the full launch of our second generation *Valeo* interbody spinal fusion devices in the United States in the first half of 2014.

We are also developing a *Valeo* stand-alone anterior lumbar intervertebral fusion device made from our *MC*^{2} silicon nitride. The *Valeo* stand-alone product candidate, which incorporates fixation screws, will allow surgeons to perform less invasive procedures. We believe this may result in better patient outcomes compared to other spinal fusion procedures. We anticipate seeking 510(k) clearance for this product candidate in the first half of 2014, and, if cleared by the FDA, we anticipate launching our *Valeo* stand-alone product candidate in the United States in the second half of 2014.

In 2009, we received a CE Mark to commercialize our *Valeo* interbody spinal fusion devices made from our composite silicon nitride. The porous *C*^{S}*C* center structure of these devices is designed to facilitate bone growth into the device, which we believe will allow surgeons to reduce or eliminate the use of allograft bone and other osteoconductive biomaterials. We are currently marketing these devices in the Netherlands, Spain and Germany. Additionally, we are conducting a clinical trial in Europe to obtain additional safety and efficacy data to support the 510(k) clearance of our *Valeo* composite interbody spinal fusion devices in the United States. We completed enrollment in this trial in September 2013 and expect results to be available in the second half of 2014. If this trial is successful, we plan to file a 510(k) submission with the FDA by mid-2015.

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Our Non-Silicon Nitride Spinal Fusion Products

We sell a line of complementary non-silicon nitride spinal fusion products to provide surgeons and hospitals with a broader range of products. Product revenue from the sale of our non-silicon nitride spinal fusion products further supports development of our silicon nitride products and product candidates. We plan to enhance our metal spinal fusion products with a silicon nitride coating. The following table lists our marketed non-silicon nitride spinal products.

CATEGORY	PRODUCT NAME	BIOMATERIAL
Facet Fixation System	Facet Gun Max/Facet Bolt	Metal
	Javelin: MIS Locking Facet System	
Lumbar Spine Fixation	Preference Classic Spine System	Metal
	Preference 2 Spine System	
	Preference 2 Complex Spine System	
Orthobiologics	Preference Element Bone Graft Substitute	Allograft
	BioDefense: Human Amnion Stem Cell Wound Covering Patch	
	BioDlogics: Human Amnion Stem Cell Liquid Wound Covering	
	Valeo BP: Synthetic Bone Putty	
	PROCET: Facet Fusion Allograft Implant	
Interbody Spinal Fusion Device	Phantom Plus PLIF/TLIF IBFD	PEEK
	Phantom Plus Cervical Spacer	

Our Total Hip and Knee Joint Replacement Product Candidates

Our Total Hip Implant Product Candidates

We are developing two designs of femoral heads for use in our total hip replacement product candidates. Our first design is a femoral head that is made from our solid *MC*^{2} silicon nitride and we are collaborating with Orthopaedic Synergy Inc. to develop a total hip replacement for this design. The second design is a metal femoral head that utilizes our silicon nitride coating, which we plan to partner with a medical device company to develop a total hip replacement. These femoral heads are expected to articulate against a cross-linked polyethylene liner, fixed into a metal acetabular cup. We plan to conduct a clinical trial of the *MC*^{2} product candidate to obtain FDA clearance and meet with the FDA to determine the regulatory pathway for the silicon nitride-coated design.

Our Total Knee Implant Product Candidates

We are developing two designs of femoral condyle components for use in our total knee replacement product candidates. The first design is made from our solid *MC*^{2} silicon nitride and we are collaborating with Orthopaedic Synergy Inc. to develop a total knee joint replacement for this design. The second design femoral condyle utilizes our silicon nitride coating, which we plan to partner with a medical device company to develop a total knee

replacement product candidate. The femoral condyle component will attach to the lower end of the femur. The femoral condyle is expected to articulate against a cross-linked polyethylene tibial insert that will attach to the tibial tray at the upper end of the tibia, which we expect will be made from metal. We have successfully made prototypes of both designs.

Other Product Opportunities

Our silicon nitride technology platform is adaptable and we believe it may be used to develop products to address other significant opportunities, such as in the dental, sports medicine and trauma markets. We plan to collaborate with medical device companies to complete the development of and commercialize any product candidates we advance in these areas.

We also believe our coating technology may be used to enhance our marketed metal products as well as other commercially available metal spinal fusion and joint replacement products. We have produced feasibility prototypes of dental implants, other components for use in total hip implants, a suture anchor for sports medicine and prototypes of silicon nitride coated plates for potential trauma applications. We have also developed a process to apply our silicon nitride as a coating on other biomaterials.

Supporting Data

We and a number of independent third parties have conducted extensive biocompatibility, biomechanical, *in vivo* and *in vitro* testing on our silicon nitride to establish its safety and efficacy in support of regulatory clearance of our biomaterial, products and product candidates. We have also completed additional testing of our silicon nitride products and product candidates. The results of this testing have been published in peer review publications. Additionally, we have initiated prospective randomized clinical trials in humans *in vivo* and *in vitro* to support and expand our understanding of our silicon nitride's performance relative to other biomaterials and medical devices. We believe our product development strategy is consistent with the manner in which other biomaterials have been successfully introduced into the market and adopted as the standard of care. Listed below is an overview of some of the key testing completed on our silicon nitride biomaterial, products and product candidates to date, as well as other information about our silicon nitride and other biomaterials.

Biocompatibility

Before our silicon nitride was first used in commercial products in 2008, we conducted a series of biocompatibility tests following the guidelines of the FDA and ISO and submitted the results to the FDA as part of the regulatory clearance process. These tests confirmed that our silicon nitride products meet required biocompatibility standards for human use.

Promotion of Bone Growth

In 2012, we conducted two separate studies at Brown University, the results of which suggest that the chemistry and inherent surface topography of our solid *MC*[2] silicon nitride provides an optimal environment for bone growth onto and around the device.

The first study was a series of *in vitro* analyses of protein adsorption, or presence on the surface of the biomaterial, onto silicon nitride, PEEK and titanium. The results of this study indicated that adsorption of two key proteins necessary for bone growth (fibronectin and vitronectin) were up to eight times greater on our silicon nitride than on PEEK, and up to four times greater than on titanium. A third important protein (laminin) had up to two times greater adsorption on our silicon nitride than on PEEK, and up to two-and-one-half times greater adsorption than on titanium.

The second study was an *in vivo* investigation of the osteointegration characteristics of these same three biomaterials after they had been surgically implanted into the skulls of laboratory rats. This study included an examination of the effect of *Staphylococcus epidermidis* bacteria on osteointegration. At time intervals of up to three months after implantation of the biomaterial, the amount of new bone growth within the surgical site and in direct contact with the implanted biomaterial was evaluated. In the absence of bacteria, new bone formation within the surgical site surrounding our silicon nitride was approximately 69%, compared with 36% and 24% for titanium and PEEK, respectively. Similarly, bone in direct contact, or apposition, with our silicon nitride,

titanium and PEEK was 59%, 19% and 8%, respectively. As is common, in the presence of bacteria, new bone formation within the surgical site was suppressed, but still significantly greater for our silicon nitride than for the other two biomaterials. Observed new bone growth within the surgical site surrounding our silicon nitride was 41%, compared with 26% and 21% for titanium and PEEK, respectively. At the implant interface, the bone apposition for our silicon nitride, titanium and PEEK was 23%, 9% and 5%, respectively. To further characterize the extent of osteointegration, the force needed to separate each implant from its surrounding bone was measured. A larger force needed to separate the implant is an indication of improved osteointegration. At three months after implantation, in the absence of bacteria, the force required to separate our silicon nitride from its surrounding bone was approximately three times that of PEEK, and nearly two times that of titanium. In the presence of bacteria, there was effectively no separation force required for PEEK, indicating essentially no osteointegration. Our silicon nitride required over five times the force to separate it from its surrounding bone in the presence of bacteria in comparison to titanium.

In 2008, we conducted an animal study in which we evaluated the level of osteointegration of our porous *CSC* silicon nitride with a knee-defect model in adult sheep. At three months after implantation, three out of five of the silicon nitride implants had extensive new bone formation at and into the implant surface, showing that the bone had grown into our *CSC* silicon nitride to a depth of 3 millimeters, or mm. This animal study demonstrated the rapid osteointegration potential of our *CSC* silicon nitride.

Hardness, Strength and Resistance to Fracture

Comparative Information

As shown in the table of comparative information publicly available about various biomaterials below:

- the hardness, or a material's resistance to deformity, of silicon nitride is comparable to traditional ceramics, but is substantially higher than either polymers or metals;
- the strength of silicon nitride is comparable or higher than metals and traditional ceramics, and is about sixteen to fifty-five times stronger than highly-cross-linked polyethylene, and four to eight times stronger than PEEK; and
- metals have the highest fracture resistance, but silicon nitride has the highest fracture resistance of any medical ceramic material and is three to eleven times more resistant to fracture than PEEK or highly-cross-linked polyethylene.

Comparison of Mechanical Properties Among Orthopedic Biomaterials

Material	Hardness (GPa)(1)	Strength (MPa)(1)	Fracture Resistance ($MPa \cdot m^{1/2}$)(1)
Silicon Nitride	**13 – 16**	**800 – 1200**	**8 – 11**
Aluminum Oxide Ceramic	14 – 19	300 – 500	3 – 5
Zirconia-Toughened Alumina Ceramic	12 – 19	700 – 1150	5 – 10
PEEK	0.09 – 0.28	160 – 180	2 – 3
Highly-Cross-Linked Polyethylene Polymer	0.03 – 0.07	22 – 48	1 – 2
Cobalt-Chromium Metal	3 – 4	700 – 1000	50 – 100
Titanium Alloy Metal	3 – 4	920 – 980	75

(1) GPa is a giga-pascal. MPa is a mega-pascal. Pascals are a measure of pressure. $MPa \cdot m^{1/2}$ is mega-pascal times a square root meter and is a measure related to the energy required to initiate fracture of a material.

We believe that the combination of high hardness, strength and fracture resistance positions our silicon nitride as an ideal biomaterial for many medical applications.

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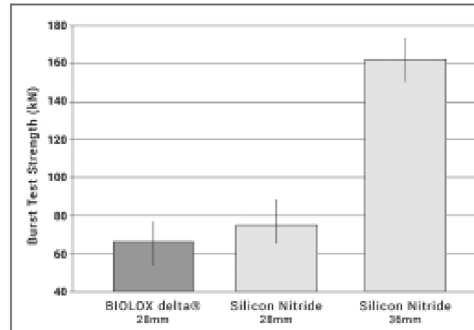
Burst Strength

In 2006, we conducted in-house comparative "burst strength" tests on femoral heads made from our silicon nitride produced by a contract manufacturer to our specifications and femoral heads made from one of the strongest commercially available ceramics, BIOLOX® *delta* (zirconia-toughened alumina). These tests were performed on three designs of 28 mm femoral heads using accepted testing protocols. The tests involved applying a load to each femoral head while mounted on a cobalt-chromium simulated hip implant stem, until the head burst. This enabled us to directly compare the strength of the femoral heads made of the two biomaterials. The results also provided an indication of each biomaterial's resistance to fracture. The results of these tests are shown in the chart below.



The average burst test strength for the silicon nitride femoral heads in these tests was 75 kilonewtons, or kNs, compared with 65 kN for BIOLOX® *delta*, or about a 15% improvement. The burst strengths observed in our tests for BIOLOX® *delta* femoral heads are comparable to those observed by an independent party testing the same design BIOLOX® *delta* femoral heads as we did. We also conducted burst strength tests of 36 mm femoral heads made from our silicon nitride which showed those femoral heads had burst strengths that averaged 164 kN.

Resistance to Wear

In 2011, we commissioned an independent laboratory to conduct a wear study using our silicon nitride femoral heads. We tested our 28 mm silicon nitride femoral heads articulated against cross-linked polyethylene acetabular liners and our 40 mm silicon nitride femoral heads articulated against cross-linked polyethylene acetabular liners using well-established protocols in a hip simulator for their wear performance over 5 million cycles. We then compared the results for our silicon nitride product candidates to the results for the cobalt chrome femoral head and publicly available data from other commonly paired products. The results and comparison showed that:

- our silicon nitride-on-cross-linked polyethylene had approximately half the wear rate of that publicly reported for cobalt chrome-on-cross-linked polyethylene articulating hip components; and
- our silicon nitride-on-cross-linked polyethylene had comparable wear to that publicly reported for traditional ceramic-on-cross-linked polyethylene articulating hip components.

Anti-Infective Properties

The results of the two studies at Brown University in 2012, demonstrate that our solid *MC*^{2} silicon nitride has anti-infective properties. The objective of the *in vitro* study was to determine how our silicon nitride, PEEK and titanium interact with bacteria, protein and bone cells without the use of antibiotics and compared the growth of five different types of bacteria on silicon nitride, PEEK and titanium over time. Live bacteria counts were between 8 to 30 times lower on silicon nitride than PEEK and up to 8 times lower on silicon nitride than titanium.

In the *in vivo* study, bacteria were applied to the biomaterials before implantation. Three months after implantation, no infection was observed with silicon nitride, whereas both PEEK and titanium showed infection. The data demonstrate that our silicon nitride inhibits biofilm formation and bacterial colonization around the biomaterial.

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Imaging Compatibility

In 2007, we conducted a study to compare the imaging characteristics of test blanks made of PEEK, the metals titanium and tantalum, and silicon nitride using a cadaver human vertebral body. Images of the vertebral body and the blanks were obtained using x-ray, CT and MRI under identical conditions. We assessed the radiolucent characteristics of the blanks in x-ray images quantitatively, assessed the presence of scatter in CT qualitatively and assessed distortion in MRI quantitatively. In x-ray, the metal blanks did not permit visualization of the underlying bone of the vertebral body, while PEEK was transparent, rendering its location difficult to determine. The silicon nitride blank had an intermediate radiolucency that rendered it visible and allowed a visual assessment of the underlying bone of the vertebral body. CT and MRI of the metal blanks indicated the presence of distortion while silicon nitride and PEEK exhibited no scattering.

Sales and Marketing

We market and sell our products to surgeons and hospitals through our established network of more than 50 independent sales distributors who are managed by our experienced 14 person in-house sales and marketing management team. Our sales efforts to date have been in the United States and selected markets in Europe and South America. To supplement our independent sales distributors, in select international markets, such as Europe, Japan, Australia and Canada, we may also seek to establish collaborations with leading orthopedic companies where we believe that a large, well-established partner may provide better access to those markets. In addition, we may establish collaborations in the United States under circumstances where access to a larger sales and marketing organization may help to expand the market or accelerate penetration for selected products.

In the first quarter of 2013, we restructured the leadership of our sales and marketing team and hired a Senior Vice President of Global Sales, a Vice President of Marketing and a Senior Vice President, Strategic Marketing. This new leadership team has reviewed our entire sales and marketing practices and are implementing steps to improve the performance of these departments.

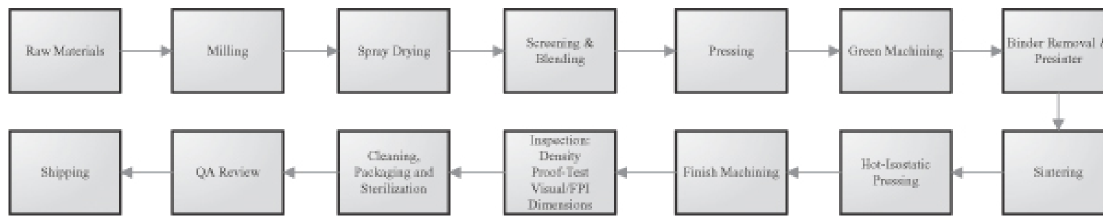
In addition to leveraging the strong existing surgeon relationships of our distribution network, we market our products through a combination of initiatives that are designed to establish and increase awareness of our silicon nitride products and their benefits over alternative products. We attend and make presentations at major industry events, including society meetings sponsored by the North American Spine Society, the America Academy of Orthopaedic Surgeons and the Congress of Neurological Surgeons, to educate surgeons and distributors about our products and product candidates. We advertise in trade journals and publications, and offer unique pricing strategies, including product bundling and incentivizing our distribution network to create and maintain long-term relationships with surgeons and hospitals. We also use surgeon advisors to assist in product development and to help implement awareness campaigns aimed at educating surgeons about our products. As part of these campaigns, we provide educational materials for hospitals and surgeons. We also conduct regional training seminars where our product managers, trainers, engineers, sales and marketing staff members work together with our surgeon advisors to educate surgeons and our distribution network in the use of our products.

Manufacturing

Silicon Nitride Manufacturing

To control the quality, cost and availability of our silicon nitride products and product candidates, we operate our own manufacturing facility. Our 54,000 square foot corporate building includes a 30,000 square foot ISO 13485 certified medical device manufacturing space. It is equipped with state-of-the-art, powder processing, spray drying, pressing and computerized machining equipment, sintering furnaces, and other testing equipment that enables us to control the entire manufacturing process for our silicon nitride products and product candidates. To our knowledge, we are the only vertically integrated silicon nitride orthopedic medical device manufacturer in the world. All operations with the exceptions of raw material production, cleaning, packaging and sterilization are performed in-house. We purchase raw materials, consisting of silicon nitride ceramic powder and dopant chemical compounds, from several vendors which are ISO registered and approved by us. These raw materials are characterized and tested in our facility in accordance with our specifications and then blended to formulate our silicon nitride. We believe

that there are multiple vendors that can supply us these raw materials and we continually monitor the quality and pricing offered by our vendors to ensure high quality and cost-effective supply of these materials. A flowchart of the silicon nitride manufacturing process is shown below.



Non-Silicon Nitride and Instruments Manufacturing

We obtain our non-silicon nitride spinal fusion products and instruments from third-party manufacturers. We also plan to rely on third-party manufacturers for the supply of the metal components of our silicon nitride hip and knee joint replacement product candidates. We only use manufacturers that operate under QSR and are ISO 13485 certified. Our in-house quality control group examines subcontracted components to ensure that they meet our required specifications. We believe that the use of third-party sources for non-silicon nitride spinal fusion products and instruments will reduce our capital investment requirements and allow us to strategically focus our resources on the manufacture of our silicon nitride products and product candidates.

Intellectual Property

We rely on a combination of patents, trademarks, trade secrets and other forms of intellectual property, nondisclosure agreements, proprietary information ownership agreements and other measures to protect our intellectual property rights. We believe that in order to have a competitive advantage, we must continue to develop and maintain the proprietary aspects of our technologies.

We currently have 34 issued U.S. patents, 38 pending U.S. patent applications, 11 granted foreign patents and 18 pending foreign patent applications. Our issued patents begin to expire in 2014, with the last of these patents expiring in 2031.

We have four U.S patents, one European patent, and related pending applications, directed to articulating implants using our high-strength, high toughness doped silicon nitride *MC*^{2} ceramic. The issued patents, which include US 6,881,229; US 7,666,229; US 8,123,812; US 7,780,738, and EP 1408874, begin to expire in 2022. We also have two U.S. patents, two European patents, and related pending applications, related to our *C*^{S}*C* technology that are directed to implants that have both a dense load-bearing, or cortical, component and a porous, or cancellous, component, together with a surface coating. The issued patents, which include US 6,790,233; US 6,846,327; EP 1389978, and EP 2055267, begin to expire in 2022.

We also have three U.S. patents and related foreign counterparts that we acquired in July 2012 from Dytech Corporation Ltd., or Dytech, directed to manufacturing processes for the production of porous ceramics for use in our orthopedic implants. These patents, which include US 5,563,106; US 5,705,448; and US 6,617,270, expire between 2014 and 2019. Under our acquisition agreement with Dytech, Dytech granted to us a perpetual, irrevocable and exclusive license, including the right to grant sublicenses, to certain improvements and know-how related to the acquired patents. In return, we are required to pay Dytech a low single-digit royalty on net sales of products sold by us, our affiliates, or our licensees that are covered by one or more valid claims of these patents, and a percentage of any non-royalty licensing income we may receive in the event we grant a license to others.

Our remaining issued patents and pending applications are directed to additional aspects of our products and technologies including, among other things:

- designs for cervical plates;
- designs for pedicle screws;

- designs for cervical disc implants;
- designs for intervertebral fusion devices;
- designs for facet fixation devices;
- designs for hip implants; and
- designs for knee implants.

We also expect to rely on trade secrets, know-how, continuing technological innovation and in-licensing opportunities to develop and maintain our intellectual property position. However, trade secrets are difficult to protect. We seek to protect the trade secrets in our proprietary technology and processes, in part, by entering into confidentiality agreements with commercial partners, collaborators, employees, consultants, scientific advisors and other contractors and into invention assignment agreements with our employees and some of our commercial partners and consultants. These agreements are designed to protect our proprietary information and, in the case of the invention assignment agreements, to grant us ownership of the technologies that are developed.

Competition

The main alternatives to our silicon nitride biomaterial include: PEEK, which is predominantly manufactured by Invibio, BIOLOX® *delta*, which is a traditional ceramic manufactured by CeramTec, allograft bone, metals and coated metals.

We believe our main competitors in the orthopedic implant market, which utilize a variety of competitive biomaterials, include: Medtronic, Inc.; DePuy Synthes Companies, a group of Johnson & Johnson companies; Stryker Corporation; Biomet, Inc.; Zimmer Holdings, Inc.; Smith & Nephew plc; and Aesculap Inc. Presently, these companies buy ceramic components on an OEM basis from manufacturers such as CeramTec, Kyocera and CoorTek, Inc., among others. We anticipate that these and other orthopedic companies and OEMs will seek to introduce new biomaterials and products that compete with ours.

Competition within the industry is primarily based on technology, innovation, product quality, and product awareness and acceptance by surgeons. Our principal competitors have substantially greater financial, technical and marketing resources, as well as significantly greater manufacturing capabilities than we do, and they may succeed in developing products that render our implants and product candidates non-competitive. Our ability to compete successfully will depend upon our ability to develop innovative products with advanced performance features based on our silicon nitride technologies.

Government Regulation of Medical Devices

Governmental authorities in the United States, at the federal, state and local levels, and other countries extensively regulate, among other things, the research, development, testing, manufacture, labeling, promotion, advertising, distribution, marketing and export and import of products such as those we are commercializing and developing. Failure to obtain approval or clearance to market our products and products under development and to meet the ongoing requirements of these regulatory authorities could prevent us from continuing to market or develop our products and product candidates.

United States

Pre-Marketing Regulation

In the United States, medical devices are regulated by the FDA. Unless an exemption applies, a new medical device will require either prior 510(k) clearance or approval of a premarket approval application, or PMA, before it can be marketed in the United States. The information that must be submitted to the FDA in order to obtain clearance or approval to market a new medical device varies depending on how the medical device is classified by the FDA. Medical devices are classified into one of three classes on the basis of the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness. Class I devices, which are those that have the lowest level or risk associated with them, are subject to general controls, including labeling, premarket notification and adherence to the QSR. Class II devices are subject to general controls and special controls, including performance standards. Class III devices, which have the highest level of risk associated with them, are

subject to most of the previously identified requirements as well as to premarket approval. Most Class I devices and some Class II devices are exempt from the 510(k) requirement, although manufacturers of these devices are still subject to registration, listing, labeling and QSR requirements.

A 510(k) premarket notification must demonstrate that the device in question is substantially equivalent to another legally marketed device, or predicate device, that did not require premarket approval. In evaluating the 510(k), the FDA will determine whether the device has the same intended use as the predicate device, and (a) has the same technological characteristics as the predicate device, or (b) has different technological characteristics, and (i) the data supporting the substantial equivalence contains information, including appropriate clinical or scientific data, if deemed necessary by the FDA, that demonstrates that the device is as safe and as effective as a legally marketed device, and (ii) does not raise different questions of safety and effectiveness than the predicate device. Most 510(k)s do not require clinical data for clearance, but the FDA may request such data. The FDA's goal is to review and act on each 510(k) within 90 days of submission, but it may take longer based on requests for additional information. In addition, requests for additional data, including clinical data, will increase the time necessary to review the notice. If the FDA does not agree that the new device is substantially equivalent to the predicate device, the new device will be classified in Class III, and the manufacturer must submit a PMA. Since July 2012, however, with the enactment of the Food and Drug Administration Safety and Innovation Act, or FDASIA, a *de novo* pathway is directly available for certain low to moderate risk devices that do not qualify for the 510(k) pathway due to lack of a predicate device. Modifications to a 510(k)-cleared medical device may require the submission of another 510(k) or a PMA if the changes could significantly affect the safety or effectiveness or constitute a major change in the intended use of the device.

Modifications to a 510(k)-cleared device frequently require the submission of a traditional 510(k), but modifications meeting certain conditions may be candidates for FDA review under a Special 510(k). If a device modification requires the submission of a 510(k), but the modification does not affect the intended use of the device or alter the fundamental scientific technology of the device, then summary information that results from the design control process associated with the cleared device can serve as the basis for clearing the application. A Special 510(k) allows a manufacturer to declare conformance to design controls without providing new data. When the modification involves a change in material, the nature of the "new" material will determine whether a traditional or Special 510(k) is necessary. For example, in its Device Advice on How to Prepare a Special 510(k), the FDA uses the example of a change in a material in a finger joint prosthesis from a known metal alloy to a ceramic that has not been used in a legally marketed predicate device as a type of change that should not be submitted as a Special 510(k). However, if the "new" material is a type that has been used in other legally marketed devices within the same classification for the same intended use, a Special 510(k) is appropriate. The FDA gives as an example a manufacturer of a hip implant who changes from one alloy to another that has been used in another legally marketed predicate. Special 510(k)s are typically processed within 30 days of receipt.

The PMA process is more complex, costly and time consuming than the 510(k) clearance procedure. A PMA must be supported by extensive data including, but not limited to, technical, preclinical, clinical, manufacturing, control and labeling information to demonstrate to the FDA's satisfaction the safety and effectiveness of the device for its intended use. After a PMA is submitted, the FDA has 45 days to determine whether it is sufficiently complete to permit a substantive review. If the PMA is complete, the FDA will file the PMA. The FDA is subject to performance goal review times for PMAs and may issue a decision letter as a first action on a PMA within 180 days of filing, but if it has questions, it will likely issue a first major deficiency letter within 150 days of filing. It may also refer the PMA to an FDA advisory panel for additional review, and will conduct a preapproval inspection of the manufacturing facility to ensure compliance with the QSR, either of which could extend the 180-day response target. While the FDA's ability to meet its performance goals has generally improved during the past few years, it may not meet these goals in the future. A PMA can take several years to complete and there is no assurance that any submitted PMA will ever be approved. Even when approved, the FDA may limit the indication for which the medical device may be marketed or to whom it may be sold. In addition, the FDA may request additional information or request the performance of additional clinical trials before it will reconsider the approval of the PMA or as a condition of approval, in which case the trials must be completed after the PMA is approved. Changes to the device, including changes to its manufacturing process, may require the approval of a supplemental PMA.

If a medical device is determined to present a "significant risk," the manufacturer may not begin a clinical trial until it submits an investigational device exemption, or IDE, to the FDA and obtains approval of the IDE from the FDA. The IDE must be supported by appropriate data, such as animal and laboratory testing results and include a proposed clinical protocol. These clinical trials are also subject to the review, approval and oversight of an institutional review board, or IRB, which is an independent and multi-disciplinary committee of volunteers who review and approve research proposals, and the reporting of adverse events and experiences, at each institution at which the clinical trial will be performed. The clinical trials must be conducted in accordance with applicable regulations, including but not limited to the FDA's IDE regulations and current good clinical practices. A clinical trial may be suspended by the FDA, the IRB or the sponsor at any time for various reasons, including a belief that the risks to the study participants outweigh the benefits of participation in the trial. Even if a clinical trial is completed, the results may not demonstrate the safety and efficacy of a device, or may be equivocal or otherwise not be sufficient to obtain approval.

Post-Marketing Regulation

After a device is placed on the market, numerous regulatory requirements apply. These include:

- compliance with the QSR, which require manufacturers to follow stringent design, testing, control, documentation, record maintenance, including maintenance of complaint and related investigation files, and other quality assurance controls during the manufacturing process;
- labeling regulations, which prohibit the promotion of products for uncleared or unapproved or "off-label" uses and impose other restrictions on labeling; and
- medical device reporting obligations, which require that manufacturers investigate and report to the FDA adverse events, including deaths, or serious injuries that may have been or were caused by a medical device and malfunctions in the device that would likely cause or contribute to a death or serious injury if it were to recur.

Failure to comply with applicable regulatory requirements can result in enforcement action by the FDA, which may include any of the following sanctions:

- warning letters;
- fines, injunctions, and civil penalties;
- recall or seizure of our products;
- operating restrictions, partial suspension or total shutdown of production;
- refusal to grant 510(k) clearance or PMA approvals of new products;
- withdrawal of 510(k) clearance or PMA approvals; and
- criminal prosecution.

To ensure compliance with regulatory requirements, medical device manufacturers are subject to market surveillance and periodic, pre-scheduled and unannounced inspections by the FDA, and these inspections may include the manufacturing facilities of our subcontractors.

International Regulation

International sales of medical devices are subject to foreign government regulations, which vary substantially from country to country. The time required to obtain approval by a foreign country may be longer or shorter than that required for FDA approval, and the requirements may differ. For example, the primary regulatory authority with respect to medical devices in Europe is that of the European Union. The European Union consists of 28 countries and has a total population of over 500 million people. The unification of these countries into a common market has resulted in the unification of laws, standards and procedures across these countries, which may expedite the introduction of medical devices like those we are offering and developing. Norway, Iceland, Lichtenstein and Switzerland are not members of the European Union, but have transposed applicable European medical device laws into their national legislation. Thus, a device that is marketed in the European Union may also be recognized and accepted in those four non-member European countries as well.

The European Union has adopted numerous directives and standards regulating the design, manufacture, clinical trials, labeling and adverse event reporting for medical devices. Devices that comply with the

requirements of relevant directives will be entitled to bear CE Conformity Marking, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be commercially distributed throughout the European Union. Actual implementation of these directives, however, may vary on a country-by-country basis. The CE Mark is a mandatory conformity mark on medical devices distributed and sold in the European Union and certifies that a medical device has met applicable requirements.

The method of assessing conformity varies, but normally involves a combination of self-assessment by the manufacturer and a third-party assessment by a "Notified Body." Notified Bodies are independent testing houses, laboratories, or product certifiers authorized by the E.U. member states to perform the required conformity assessment tasks, such as quality system audits and device compliance testing. An assessment by a Notified Body based within the European Union is required in order for a manufacturer to distribute the product commercially throughout the European Union. Medium and higher risk devices require the intervention of a Notified Body which will be responsible for auditing the manufacturer's quality system. The Notified Body will also determine whether or not the product conforms to the requirements of the applicable directives. Devices that meet the applicable requirements of E.U. law and have undergone the appropriate conformity assessment routes will be granted CE "certification."

The CE Mark is mandatory for medical devices sold not only within the countries of the European Union but more generally within all countries in western Europe. As many of the European standards are converging with international standards, the CE Mark is often used on medical devices manufactured and sold outside of Europe (notably in Asia that exports many manufactured products to Europe). CE Marking gives companies easier access into not only the European market but also to Asian and Latin American markets, most of whom recognize the CE Mark on medical device as a mark of quality and adhering to international standards of consumer safety, health or environmental requirements.

In September 2012, the European Commission adopted a proposal for a regulation which, if adopted, will change the way that most medical devices are regulated in the European Union, and may subject our products to additional requirements.

Compliance with Healthcare Laws

We must comply with various U.S. federal and state laws, rules and regulations pertaining to healthcare fraud and abuse, including anti-kickback and false claims laws, rules, and regulations, as well as other healthcare laws in connection with the commercialization of our products. Fraud and abuse laws are interpreted broadly and enforced aggressively by various state and federal agencies, including the U.S. Department of Justice, the U.S. Office of Inspector General for the Department of Health and Human Services and various state agencies.

We have entered into agreements with certain surgeons for assistance with the design of our products, some of whom we anticipate may make referrals to us or order our products. A majority of these agreements contain provisions for the payments of royalties and/or stock options. In addition, some surgeons currently own shares of our stock. We have structured these transactions with the intention of complying with all applicable laws, including fraud and abuse, data privacy and security, and transparency laws. Despite this intention, there can be no assurance that a particular government agency or court would determine our practices to be in full compliance with such laws. We could be materially impacted if regulatory or enforcement agencies or courts interpret our financial arrangements with surgeons to be in violation of healthcare laws, including, without limitation, fraud and abuse, data privacy and security, or transparency laws.

The U.S. federal Anti-Kickback Statute prohibits persons, including a medical device manufacturer (or a party acting on its behalf), from knowingly or willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for a service or product or the purchasing, ordering, arranging for, or recommending the ordering of, any service or product for which payment may be made by Medicare, Medicaid or any other federal healthcare program. This statute has been interpreted to apply to arrangements between medical device manufacturers on one hand and healthcare providers on the other. The term "remuneration" is not defined in the federal Anti-Kickback Statute and has been broadly interpreted to include anything of value, such as cash payments, gifts or gift certificates, discounts, waiver of payments, credit

arrangements, ownership interests, the furnishing of services, supplies or equipment, and the provision of anything at less than its fair market value. Courts have broadly interpreted the scope of the law, holding that it may be violated if merely “one purpose” of an arrangement is to induce referrals, irrespective of the existence of other legitimate purposes. The Anti-Kickback Statute prohibits many arrangements and practices that are lawful in businesses outside of the healthcare industry. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain business arrangements from prosecution, the exemptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exemption or safe harbor. Our practices may not in all cases meet all of the criteria for safe harbor protection from federal Anti-Kickback Statute liability. The reach of the Anti-Kickback Statute was broadened by the recently enacted Patient Protection and Affordable Care Act of 2010 and the Health Care and Education Affordability Reconciliation Act of 2010, collectively, the Affordable Care Act or ACA, which, among other things, amends the intent requirement of the federal Anti-Kickback Statute such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the ACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act (discussed below) or the civil monetary penalties statute, which imposes fines against any person who is determined to have presented or caused to be presented claims to a federal healthcare program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent. In addition to the federal Anti-Kickback Statute, many states have their own anti-kickback laws. Often, these laws closely follow the language of the federal law, although they do not always have the same scope, exceptions, safe harbors or sanctions. In some states, these anti-kickback laws apply not only to payments made by government healthcare programs but also to payments made by other third-party payors, including commercial insurance companies.

Sales, marketing, consulting, and advisory arrangements between medical device manufacturers and sales agents and physicians are subject to the Anti-Kickback Statute and other fraud and abuse laws. Government officials have focused recent enforcement efforts on, among other things, the sales and marketing activities of healthcare companies, including medical device manufacturers, and have brought cases against individuals or entities whose personnel allegedly offered unlawful inducements to potential or existing customers in an attempt to procure their business. We expect these activities to continue to be a focus of government enforcement efforts. Settlements of these cases by healthcare companies have involved significant fines and penalties and in some instances criminal plea agreements. We are also aware of governmental investigations of some of the largest orthopedic device companies reportedly focusing on consulting and service agreements between these companies and orthopedic surgeons. These developments are ongoing and we cannot predict the effects they will have on our business.

The federal False Claims Act imposes liability on any person that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment by a federal healthcare program. The *qui tam* provisions of the False Claims Act allow a private individual to bring civil actions on behalf of the federal government alleging that the defendant has submitted a false claim, or has caused such a claim to be submitted, to the federal government, and to share in any monetary recovery. There are many potential bases for liability under the False Claims Act. Liability arises, primarily, when a person knowingly submits, or causes another to submit, a false claim for reimbursement to the federal government. The False Claims Act has been used to assert liability on the basis of inadequate care, kickbacks, and other improper referrals, and allegations as to misrepresentations with respect to the services rendered. *Qui tam* actions have increased significantly in recent years, causing greater numbers of healthcare companies, including medical device manufacturers, to defend false claim actions, pay damages and penalties, or be excluded from participation in Medicare, Medicaid or other federal or state healthcare programs as a result of investigations arising out of such actions. In addition, various states have enacted similar laws analogous to the False Claims Act. Many of these state laws apply where a claim is submitted to any third-party payor and not merely a federal healthcare program. We are unable to predict whether we would be subject to actions under the False Claims Act or a similar state law, or the impact of such actions. However, the cost of defending such claims, as well as any sanctions imposed, could adversely affect our financial performance. The Health Insurance Portability and Accountability Act of 1996, or HIPAA, also created several new federal crimes, including healthcare fraud and false statements relating to healthcare matters. The

healthcare fraud statute prohibits knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third party payors. The false statements statute prohibits knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false, fictitious, or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items, or services.

In addition, we may be subject to, or our marketing or research activities may be limited by, data privacy and security regulation by both the federal government and the states in which we conduct our business. For example, HIPAA and its implementing regulations established uniform federal standards for certain “covered entities” (healthcare providers, health plans and healthcare clearinghouses) governing the conduct of certain electronic healthcare transactions and protecting the security and privacy of protected health information. The American Recovery and Reinvestment Act of 2009, commonly referred to as the economic stimulus package, included expansion of HIPAA’s privacy and security standards called the Health Information Technology for Economic and Clinical Health Act, or HITECH, which became effective on February 17, 2010. Among other things, HITECH makes HIPAA’s privacy and security standards directly applicable to “business associates”—independent contractors or agents of covered entities that create, receive, maintain, or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney’s fees and costs associated with pursuing federal civil actions. These laws also require the reporting of breaches of protected health information to affected individuals, regulators and in some cases, local or national media. HIPAA and HITECH impose strict limits on our physician collaborators’ ability to use and disclose patient information on our behalf.

There are also an increasing number of state “sunshine” laws that require manufacturers to provide reports to state governments on pricing and marketing information. Several states have enacted legislation requiring medical device companies to, among other things, establish marketing compliance programs, file periodic reports with the state, make periodic public disclosures on sales and marketing activities, and to prohibit or limit certain other sales and marketing practices. In addition, a federal law known as the Physician Payments Sunshine Act, now requires medical device manufacturers to track and report to the federal government certain payments and other transfers of value made to physicians and teaching hospitals and ownership or investment interests held by physicians and their immediate family members. The federal government will disclose the reported information on a publicly available website beginning in 2014. These laws may adversely affect our sales, marketing, and other activities by imposing administrative and compliance burdens on us. If we fail to track and report as required by these laws or to otherwise comply with these laws, we could be subject to the penalty provisions of the pertinent state and federal authorities.

Clinical research is heavily regulated by FDA regulations for the protection of human subjects (21 C.F.R. 50 and 56) and also the regulations of the U.S Department of Health and Human Services, or the Common Rule (45 C.F.R 46). Both FDA human subject regulations and the Common Rule impose restrictions on the involvement of human subjects in clinical research and require, among other things, the balancing of the risks and benefits of research, the documented informed consent of research participants, initial and ongoing review of research by an IRB. Similar regulations govern research conducted in foreign countries. Compliance with human subject protection regulations is costly and time consuming. Failure to comply could substantially and adversely impact our research program and the development of our products.

Because of the breadth of these laws and the narrowness of available statutory and regulatory exemptions, it is possible that some of our business activities could be subject to challenge under one or more of such laws. If our operations are found to be in violation of any of the federal and state laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including criminal and significant civil monetary penalties, damages, fines, imprisonment, exclusion from participation in government healthcare programs, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product clearances and approvals, private “qui tam” actions brought by individual whistleblowers in the name of the government or refusal to allow us to enter into supply contracts, including government contracts, and the curtailment or restructuring of our operations. Public disclosure of privacy and

data security violations could cause significant reputational harm. Any of these events could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws, implementation of corporate compliance programs, as well as laws and regulations requiring transparency of pricing and marketing information and governing the privacy and security of health information, such as the E.U.'s Directive 95/46 on the Protection of Individuals with regard to the Processing of Personal Data, or the Data Directive, and the wide variety of national laws implementing the Data Directive.

Healthcare Reform

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes to the healthcare system that could affect our future results of operations. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs.

In March 2010, President Obama signed into law the ACA, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on pharmaceutical and medical device manufacturers and impose additional health policy reforms. Among other things, the ACA imposes a 2.3% medical device excise tax on sales of many medical devices in the United States which became effective on January 1, 2013. Substantial new provisions affecting compliance have also been enacted, which may affect our business practices with healthcare practitioners and a significant number of provisions are not yet, or have only recently become, effective. Although it is too early to determine the full effect of the ACA, the new law appears likely to place downward pressure on pricing of medical devices, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. For example, on August 2, 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee on Deficit Reduction did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or ATRA, which, among other things, reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. On March 1, 2013, the President signed an executive order implementing the Budget Control Act's 2% Medicare payment reductions, and on April 1, 2013, these reductions went into effect. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on our financial operations.

We expect that the ACA, as well as other healthcare reform measures that have been and may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for our products. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may affect our ability to generate revenue and profits or commercialize our product candidates.

Third-Party Reimbursement

Because we typically receive payment directly from hospitals and surgical centers, we do not anticipate relying directly on payment for any of our products from third-party payors, such as Medicare, Medicaid, private insurers, and managed care companies. However, our business will be affected by policies administered by federal and state healthcare programs, such as Medicare and Medicaid, as well as private third-party payors, which often follow the policies of the state and federal healthcare programs. For example, our business will be indirectly impacted by the ability of a hospital or medical facility to obtain coverage and third-party reimbursement for procedures performed using our products. Many hospitals and clinics in the United States

belong to group purchasing organizations (that typically incentivize their hospital members to make a relatively large proportion of purchases from a limited number of vendors of similar products that have contracted to offer discounted prices). Such contracts often include exceptions for purchasing certain innovative new technologies, however. Accordingly, the commercial success of our products may also depend to some extent on our ability to either negotiate favorable purchase contracts with key group purchasing organizations or persuade hospitals and clinics to purchase our product “off contract.” These third-party payors may deny reimbursement if they determine that a device used in a procedure was not medically necessary; was not used in accordance with cost-effective treatment methods, as determined by the third-party payor; or was used for an unapproved use. A national or local coverage decision denying Medicare coverage for one or more of our products could result in private insurers and other third party payors also denying coverage. Even if favorable coverage and reimbursement status is attained for our products, less favorable coverage policies and reimbursement rates may be implemented in the future. The cost containment measures that third-party payors and providers are instituting, both within the United States and abroad, could significantly reduce our potential revenues from the sale of our products and any product candidates. We cannot provide any assurances that we will be able to obtain and maintain third party coverage or adequate reimbursement for our products and product candidates in whole or in part.

For inpatient and outpatient procedures, including those that will involve use of our products, Medicare and many other third-party payors in the United States reimburse hospitals at a prospectively determined amount. This amount is generally based on one or more diagnosis related groups, or DRGs, associated with the patient’s condition for inpatient treatment and generally based on ambulatory payment classifications, or APCs, associated with the procedures performed as an outpatient at an ambulation surgicenter. Each DRG or APC is associated with a level of payment and may be adjusted from time to time, usually annually. Prospective payments are intended to cover most of the non-physician hospital costs incurred in connection with the applicable diagnosis and related procedures. Implant products, such as those we plan to sell, represent part of the total procedure costs while labor, hospital room and board, and other supplies and services represent the balance of those costs. However, the prospective payment amounts are typically set independently of a particular hospital’s actual costs associated with treating a particular patient and implanting a device. Therefore, the payment that a hospital would receive for a particular hospital visit would not typically take into account the cost of our products.

Medicare has established a number of DRGs for inpatient procedures that involve the use of products similar to ours. Although Medicare has authority to create special DRGs for hospital services that more properly reflect the actual costs of expensive or new-technology devices implanted as part of a procedure, it has declined to do so in the past, and we do not expect that it will do so with respect to our current products and product candidates. Medicare’s DRG and APC classifications may have implications outside of Medicare, as many other U.S. third-party payors often use Medicare DRGs and APCs for purposes of determining reimbursement.

We believe that orthopedic implants generally have been well received by third-party payors because of the ability of these implants to greatly reduce long-term healthcare costs for patients with degenerative joint disease. However, coverage and reimbursement policies vary from payor to payor and are subject to change. As discussed above, hospitals that purchase medical devices for treatment of their patients generally rely on third-party payors to reimburse all or part of the costs and fees associated with the procedures performed with these devices. Both government and private third-party coverage and reimbursement levels are critical to new product acceptance. Neither hospitals nor surgeons are likely to use our products if they do not receive reimbursement for the procedures adequate to cover the cost of our products.

While it is expected that hospitals will be able to obtain coverage for procedures using our products, the level of payment available to them for such procedures may change over time. State and federal healthcare programs, such as Medicare and Medicaid, closely regulate provider payment levels and have sought to contain, and sometimes reduce, payment levels. Commercial insurers and managed care plans frequently follow government payment policies, and are likewise interested in controlling increases in the cost of medical care. These third-party payors may deny payment if they determine that a procedure was not medically necessary, a device used in a procedure was not used in accordance with cost-effective treatment methods, as determined by the third-party payor, or was used for an unapproved use.

In addition, some payors are adopting pay-for-performance programs that differentiate payments to healthcare providers based on the achievement of documented quality-of-care metrics, cost efficiencies, or patient outcomes. These programs are intended to provide incentives to providers to find ways to deliver the same or better results while consuming fewer resources. As a result of these programs, and related payor efforts to reduce payment levels, hospitals and other providers are seeking ways to reduce their costs, including the amounts they pay to medical device suppliers. Adverse changes in payment rates by payors to hospitals could adversely impact our ability to market and sell our products and negatively affect our financial performance.

In international markets, healthcare payment systems vary significantly by country and many countries have instituted price ceilings on specific product lines. There can be no assurance that our products will be considered cost-effective by third-party payors, that reimbursement will be available or, if available, that the third-party payors' reimbursement policies will not adversely affect our ability to sell our products profitably.

Member countries of the European Union offer various combinations of centrally financed healthcare systems and private health insurance systems. The relative importance of government and private systems varies from country to country. Governments may influence the price of medical devices through their pricing and reimbursement rules and control of national healthcare systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may be marketed only once a reimbursement price has been agreed upon. Some of these countries may require, as condition of obtaining reimbursement or pricing approval, the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Some E.U. member states allow companies to fix their own prices for devices, but monitor and control company profits. The choice of devices is subject to constraints imposed by the availability of funds within the purchasing institution. Medical devices are most commonly sold to hospitals or healthcare facilities at a price set by negotiation between the buyer and the seller. A contract to purchase products may result from an individual initiative or as a result of a competitive bidding process. In either case, the purchaser pays the supplier, and payment terms vary widely throughout the European Union. Failure to obtain favorable negotiated prices with hospitals or healthcare facilities could adversely affect sales of our products.

Employees

As of September 15, 2013, we had 78 employees, including 5 part-time temporary employees, of which 14 are employed in administration, 17 in operations, 33 in manufacturing and research and development, and 14 in sales and marketing. We believe that our success will depend, in part, on our ability to attract and retain qualified personnel. We have never experienced a work stoppage due to labor difficulties and believe that our relations with our employees are good. None of our employees are represented by labor unions.

Facilities

Our 54,000 square foot corporate office and manufacturing facilities are located in Salt Lake City, Utah. We occupy these facilities pursuant to a lease that expires in January 2020. We may extend the lease for two additional periods of five years each. We believe that our existing facilities are adequate for our current and projected needs for the foreseeable future.

Legal Matters

We were recently a defendant in a lawsuit brought by our former CEO, Ben R. Shappley, in the United States District Court for the District of Utah in December 2011. Following his termination in November 2011, Mr. Shappley sought to enforce the terms of an employment agreement he had with us and alleged that his services were terminated without cause and, therefore, that he was entitled to certain benefits under the terms of his employment agreement. He sought approximately $1.5 million for his alleged losses, plus attorney's fees incurred in enforcing his rights under the employment agreement. We believe that Mr. Shappley was validly terminated for cause under the employment agreement and we vigorously defended Mr. Shappley's claims. In April 2013, the parties concluded a five day bench trial. On September 5, 2013, the court ruled in our favor on all but one count, awarded Mr. Shappley $13,750 and awarded us our attorney's fees in connection with all other counts. The parties have 30 days from this ruling to appeal. If Mr. Shappley elects to appeal the court's decision, we intend to vigorously oppose the appeal.

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MANAGEMENT

Directors and Executive Officers

Our current directors and executive officers and their respective ages and positions are as follows:

Name	Age	Position
Max E. Link, Ph.D.	73	Chairman of the Board of Directors
Eric K. Olson	50	Director, President and Chief Executive Officer
B. Sonny Bal, M.D.	50	Director
Jay M. Moyes	59	Director
David W. Truetzel	56	Director
James Abraham	53	Senior Vice President, Global Sales
Kevin Davis	48	Chief Operating Officer
W. Karl Farnsworth	56	Chief Financial Officer and Treasurer
Bryan J. McEntire	61	Chief Technology Officer
Kevin Ontiveros	53	Chief Legal Officer, Chief Compliance Officer and Corporate Secretary
Vytas Rupinskas	61	Vice President, Marketing

The following is a brief summary of the background of each of our current directors and executive officers.

Max E. Link, Ph.D. has served as the chairman of our board of directors since October 2003. Dr. Link was chairman of the board of directors and Chief Executive Officer of Centerpulse AG, a medical implant company from March 2002 to October 2003. Prior to joining Centerpulse, Dr. Link was Chief Executive Officer of Corange (Bermuda), the parent company of Boehringer Mannheim Corporation and chairman of the board of directors and chief executive officer of Sandoz Pharma, Ltd., now part of Novartis Corporation, a manufacturer of pharmaceutical products. Dr. Link is chairman of the boards of directors of three publicly listed biopharmaceutical companies, Alexion Pharmaceuticals, Inc., Celsion Corporation and CytRx Corporation. Dr. Link holds a Ph.D. in Economics from University of St. Gallen (Switzerland).

We believe that Dr. Link is qualified to serve as a member of our board of directors because of his significant experience leading companies in our industry as well as the depth of his institutional knowledge of our company.

Eric K. Olson has served as our Chief Executive Officer and President and as a director since February 2012. Prior to serving us in this capacity, Mr. Olson served as our Senior Vice President of Global Marketing from June 2011 through February 2012. From December 2007 to June 2011, Mr. Olson was the Executive Vice President of Sales & Marketing for Axial Biotech, Inc., a molecular diagnostics company. Mr. Olson has also held senior sales and marketing positions with Medtronic, Inc. and Smith & Nephew. Mr. Olson holds a B.S. in Behavioral Science and Health Administration from the University of Utah, and has also completed a master's-level internship program at the same institution.

We believe that Mr. Olson's position as the Chief Executive Officer and President of our Company uniquely qualifies him to serve on our board of directors due to his intimate knowledge of our day-to-day operations. Additionally, Mr. Olson possesses a wealth of industry experience related to our business.

B. Sonny Bal, M.D. has served on our board of directors since February 2012. Dr. Bal is Professor & Chief of Adult Reconstruction at the University of Missouri, Columbia, specializing in hip and knee replacement surgery. He also is an Adjunct Professor of Material Sciences at the University of Missouri at Rolla. Dr. Bal is a member of the American Academy of Orthopaedic Surgeons and the American Association of Hip and Knee Surgeons. Dr. Bal received his M.D. degree from Cornell University and an M.B.A. from Northwestern University, and a J.D. from the University of Missouri. Dr. Bal is a licensed attorney and co-founder of the Bal Brenner law firm in North Carolina.

We believe that Dr. Bal's expertise in orthopedic surgery and his specialty in hip and knee replacement surgery qualifies him to serve on our board of directors.

Jay Moyes has served on our board of directors since November 2012. Since November 2007 Mr. Moyes has been the managing member of Drayton Investments, LLC, a partnership focused on investing in private healthcare related companies and real estate financing. In April 2012, he joined the board of directors of Puma Biotechnology Inc., a biopharmaceutical company. Since May 2006, he has been a member of the board of directors and chairman of the audit committee of Osiris Therapeutics, Inc., a publicly held stem cell therapeutics company. Mr. Moyes is also a director of BioCardia, Inc., a medical device company, and Integrated Diagnostics Inc., a molecular diagnostics company. From May 2008 through July 2009, Mr. Moyes served as the Chief Financial Officer of XDx, Inc., a privately held molecular diagnostics company. Prior to that, he served as the Chief Financial Officer of Myriad Genetics, Inc., a publicly held healthcare diagnostics company, from June 1996 until his retirement in November 2007, and as its Vice President of Finance from July 1993 until July 2005. From 1991 to 1993, Mr. Moyes served as Vice President of Finance and Chief Financial Officer of Genmark, Inc., a privately held genetics company. He held various positions with the accounting firm of KPMG LLP from 1979 through 1991, most recently as a Senior Manager. He also served as a member of the Board of Trustees of the Utah Life Science Association from 1999 through 2006. He holds an M.B.A from the University of Utah and received his B.A. in Economics from Weber State University.

We believe that Mr. Moyes experience working with biotechnology companies through their transformation from emerging growth to established, publicly-traded companies qualify him to serve on our board of directors.

David W. Truetzel has served on our board of directors since our acquisition of US Spine, Inc. in September 2010. Mr. Truetzel has been the general partner of Augury Capital Partners a private equity fund that invests in life sciences and information technology companies, which he co-founded in 2006. Mr. Truetzel is a director of Enterprise Bank, Inc., Verifi, Inc., a provider of electronic payment solutions, Clearent, LLC, a credit card processing provider, and Paranet, LLC, an IT services provider. Mr. Truetzel holds a B.S. in Business Administration from Saint Louis University, an M.B.A. from The Wharton School and is a licensed C.P.A.

We believe that Mr. Truetzel's financial and managerial expertise qualify him to serve on our board of directors.

James Abraham joined us as Senior Vice President, Global Sales, in January 2013. From January 2007 to December 2013 Mr. Abraham worked in various capacities at Stryker Corporation, a medical equipment company including as Senior Director of Sales. He also previously served as Senior Vice President of Sales and Marketing for IsoTis Orthobiologics, Inc., a company which specializes in human tissue and synthetic grafting and injectable bone growth stimulation. Mr. Abraham holds a B.S. in Business Administration from Creighton University.

Kevin Davis has served as our Chief Operating Officer since June 2012. From December 2011 to June 2012, he served as our President of Manufacturing. From March 2011 to December 2011, he served as our Vice President of Strategy and Business Development. From March 2009 to March 2011, he served as our Cost Accountant, Financial Systems. Mr. Davis was the Chief Financial Officer, from April 2007 to March 2009, of Nevada Chemicals, Inc., a sodium cyanide chemical company and served as one of its directors. Mr. Davis graduated from the University of Utah with a B.S. in Accounting.

W. Karl Farnsworth has served as our Chief Financial Officer since February 2013. From May 2011 to October 2012, Mr. Farnsworth was Senior Vice President & Treasurer for EnergySolutions, Inc. and its 21 affiliated companies, providers of services to the nuclear energy industry. From May 2005 to October 2011, Mr. Farnsworth served as Chief Financial Officer for Alcan Products Corporation, a manufacturer and marketer of aluminum alloy electrical conductor cable, and part of Alcan Inc., acquired by Rio Tinto Corporation in 2007. While there, he served as a director of the following corporate boards: Alcan Cable (Canada), Inc.; Stabiloy De Mexico; EPA Holdings Ltd.—Hong Kong; APC Holding Corporation—USA; Alcan (Tianjin) and Alloy Products Corporation—China. Mr. Farnsworth holds a B.S. in accounting from Brigham Young University's Marriott School of Management and earned an executive M.B.A. in finance and operations management from The Ohio State University—Max Fischer School of Business. He is also a licensed C.P.A. and is certified in Lean Six Sigma.

Bryan J. McEntire has served as our Chief Technology Officer since May 2012. From June 2004 to May 2012 he served as our Vice President of Manufacturing and as our Vice President of Research from December 2006 to May

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2012. Mr. McEntire has worked in various advanced ceramic product development, quality engineering and manufacturing roles at Applied Materials, Inc., Norton Advanced Ceramics, a division of Saint-Gobain Industrial Ceramics Corporation, Norton/TRW Ceramics and Ceramatec, Inc., a small producer of ionic-conducting and structural ceramic components located in Salt Lake City, Utah. Mr. McEntire holds a B.S. degree in Materials Science and Engineering and an M.B.A. from the University of Utah.

Kevin Ontiveros has served as our Chief Legal Officer and Chief Compliance Officer since December 2012. Mr. Ontiveros was previously a practicing attorney at Life Science Law PC from February 2011 to December 2012 and Stoel Rives LLP from January 2009 to January 2011, where he provided legal and business counsel on a wide range of matters, including technology licensing transactions, corporate financing opportunities (including public and private equity and debt offerings), public company SEC reporting compliance, and clinical trial, manufacturing, distribution, and research and development agreements. Mr. Ontiveros served as the Vice President-Legal Affairs, General Counsel and Corporate Secretary for ImaRx Therapeutics, Inc. from March 2007 to December 2008 and as the Vice President-Corporate Law and Assistant Corporate Secretary for NPS Pharmaceuticals, Inc. from April 1996 to March 2007. Mr. Ontiveros earned his B.A. from the University of Arizona, his J.D. from the University of Utah School of Law and his L.L.M. in Taxation from the University of Florida.

Vytas Rupinskas is our Vice President of Marketing, a position he has held since December 2012. From September 2005 to March 2012, Mr. Rupinskas served as the Director of Product Management for Leads & Accessories for the Neuromodulation Division of St. Jude Medical, Inc., and Marketing Manager for St. Jude Medical, a provider of implantable medical devices. Prior to his tenure at St. Jude Medical, Mr. Rupinskas served as Senior Product Manager at Exatech, Inc., a provider of implant devices and surgical instruments and held various senior global marketing and international sales management positions at DePuy Orthopaedics, Inc., a medical device company, and its affiliates DePuy International Ltd. and DePuy Spine, Inc. Mr. Rupinskas is a graduate of the University of Illinois with a B.S. degree in Liberal Arts and Sciences and an M.S. in Mechanical Engineering.

Board Composition

Our amended and restated certificate of incorporation and amended and restated bylaws provide that the authorized number of directors may be changed only by resolution of the board of directors. Seven directors are currently authorized. In accordance with our amended and restated certificate of incorporation, immediately upon the closing of this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual meeting of stockholders following this offering, the successors to the directors whose terms then expire will be elected to serve until the third annual meeting following the election. At the closing of this offering, our directors will be divided among the three classes as follows:

- The Class I directors will be and , and their terms will expire at the first annual meeting of stockholders to be held after the completion of this offering;
- The Class II directors will be and , and their terms will expire at the second annual meeting of stockholders to be held after the completion of this offering; and
- The Class III directors will be and , and their terms will expire at the third annual meeting of stockholders to be held after the completion of this offering.

Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors.

Director Independence

Our board of directors has reviewed the materiality of any relationship between us and each of our directors, either directly or indirectly. Based on this review, the board of directors has determined that , , and are “independent directors” as defined by the SEC and NASDAQ. The rules of The NASDAQ Global Market require that a majority of the board of directors of a listed company consist of independent directors, as defined by the rules of The NASDAQ Global Market. We currently have a board of directors consisting of a majority of independent directors.

Committees of the Board of Directors

Our board of directors has an audit committee, a compensation committee and, immediately upon the closing of this offering, a nominating and corporate governance committee, each of which has the composition and responsibilities described below. The rules of The NASDAQ Global Market require that the audit committee consist of at least three members of our board of directors, each of whom must be independent, as established under the rules of The NASDAQ Global Market and the SEC.

Audit Committee

At the closing of this offering, our audit committee will be composed of , and , each of whom is independent within the meaning of the rules of the SEC and the listing standards of The NASDAQ Global Market. Our board of directors has determined qualifies as a financial expert as defined in SEC rules. Our independent auditors and management periodically meet privately with our audit committee. Our audit committee is authorized to:

- approve and retain the independent auditors to conduct the annual audit of our books and records;
- review the proposed scope and results of the audit;
- review and pre-approve the independent auditor's audit and non-audit services rendered;
- approve the audit fees to be paid;
- review accounting and financial controls with the independent auditors and our financial and accounting staff;
- review and approve transactions between us and our directors, officers and affiliates;
- recognize and prevent prohibited non-audit services;
- establish procedures for complaints received by us regarding accounting matters;
- oversee internal audit functions; and
- prepare the report of the audit committee that SEC rules require to be included in our annual meeting proxy statement.

Compensation Committee

The rules of The NASDAQ Global Market require that the compensation committee consist of at least two members of our board of directors, each of whom must be independent, as established under the rules of The NASDAQ Global Market and the SEC. At the closing of this offering, our compensation committee will be composed of Max Link (Chairman) and , each of whom is independent within the meaning of the rules of the SEC and The NASDAQ Global Market.

Our compensation committee is authorized to:

- annually evaluate the performance of and review and recommend to our board of directors the compensation arrangements for management, including the compensation for our president and chief executive officer;
- establish and review general compensation policies with the objective to attract and retain superior talent, to reward individual performance and to achieve our financial goals;
- determine or review and make recommendations to our board of directors with respect to director compensation;
- evaluate and assess potential compensation advisors and retain and approve their compensation; and
- administer our stock incentive plans.

Nominating and Governance Committee

At the closing of this offering, our nominating and governance committee will be composed of Jay Moyes (Chairman) and Sonny Bal, each of whom is independent within the meaning of the rules of the SEC and The NASDAQ Global Market. Our nominating and governance committee is authorized to:

- develop and recommend to the board of directors criteria for board and committee membership;
- establish procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;

- identify individuals qualified to become members of the board of directors and recommend such persons to the board of directors to be nominated for election as directors and/or to each of the board of directors' committees'
- develop and recommend to the board of directors a set of corporate governance principles applicable to our company; and
- oversee the evaluation of the board of directors and management.

Compensation Committee Interlocks and Insider Participation

No member of our compensation committee has at any time been an employee of ours. None of our executive officers serves as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

Code of Business Conduct and Ethics

We have adopted a code of business ethics that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. Upon the closing of this offering, our code of business conduct and ethics will be available on our website. We intend to disclose any amendments to the code, or any waivers of its requirements on our website.

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EXECUTIVE AND DIRECTOR COMPENSATION

The following discussion relates to the compensation of our "named executive officers," including our Chief Executive Officer and President, Eric K. Olson, and our two most highly compensated executive officers (other than our chief executive officer), Bryan J. McEntire, our Chief Technology Officer, and Kevin Davis, our Chief Operating Officer and Reyn E. Gallacher, our former Chief Financial Officer who was employed by us through December 3, 2012.

Summary Compensation Table

The following table sets forth information about certain compensation awarded or paid to our named executive officers for the 2012 fiscal year.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)(1)	All Other Compensation ($)	Total ($)
Eric K. Olson Chief Executive Officer and President	2012	232,923	20,000	275,000	—(2)	527,923
Bryan J. McEntire Chief Technology Officer	2012	212,995	5,000	94,550	8,680(3)	321,225
Reyn E. Gallacher Former Chief Financial Officer, Vice President of Finance and Chief Compliance Officer	2012	184,020(4)		69,200	37,542(5)	290,762
Kevin Davis Chief Operating Officer	2012	169,606(6)	6,500	—	—(7)	176,106

(1) Amount shown for Mr. Olson reflects the grant date fair value of options awarded in 2012 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation.* Amounts shown for Messrs. McEntire and Gallacher reflect the incremental fair value of stock options issued to these named executive officers in exchange for outstanding stock options with exercise prices over $1.00 in March 2012. These amounts exclude the value of estimated forfeitures. Assumptions used in the calculation of these amounts are included in Note 8 to our financial statements included elsewhere in this prospectus.
(2) Mr. Olson did not contribute money to our 401(k) plan in 2012. Therefore we paid no matching 401(k) amounts nor did we provide him with any other additional compensation in 2012.
(3) Amounts shown reflect matching 401(k) contributions paid by us.
(4) Mr. Gallacher's employment with us was terminated on December 3, 2012.
(5) Amounts shown reflect $22,701 of vacation compensation paid at the time of Mr. Gallacher's termination, matching 401(k) contributions paid by us and fees paid to Mr. Gallacher in connection with services he provided to us under the terms of an agreement to provide professional services to us dated December 3, 2012.
(6) This amount includes $9,701 received by Mr. Davis as a commission related to the sale of products to one of our distributors.
(7) Mr. Davis did not contribute money to our 401(k) plan in 2012. Therefore we paid no matching 401(k) amount nor did we provide him with any other additional compensation in 2012.

Narrative Disclosure to Summary Compensation Table

Base Salaries. The base salaries for our named executive officers for 2012 and, if applicable, 2013 were determined by our compensation committee after reviewing a number of factors, including:

- the responsibilities associated with the position held by each of our executive officers and where that position fits within our overall corporate structure;
- the seniority of the individual executive's position;
- the base salary level of each executive officer in prior years;
- our overall financial position; and
- for executive officers other than our Chief Executive Officer, recommendations made by our Chief Executive Officer.

For 2012, our board of directors approved a salary of $250,000 for Mr. Olson, $228,545 for Mr. McEntire, $205,000 for Mr. Gallacher and $184,450 for Mr. Davis. In May 2012, our board reduced the salaries of our named executive officers by ten percent, in order to conserve cash. In December 2012, the salaries of our named executive officers were restored to their original 2012 amounts with the exception of Mr. Olson, whose salary was increased to $300,000. Our board, upon the recommendation of our compensation committee decided to give this base salary increase to Mr. Olson in recognition of his significant contributions, including helping to increase our revenue above $24 million, aligning our sales and marketing team's salaries with our revenues and our receipt of 510(k) clearance for our second generation *Valeo* products while under his leadership.

Annual Cash Bonuses. We have historically awarded discretionary cash bonuses to our executive officers. These bonuses are intended to reward our executive officers for the achievement of key strategic and business outcomes. Accordingly, each of Mr. Olson, Mr. McEntire and Mr. Davis were awarded a cash bonus for 2012 equal to $20,000, $5,000 and $6,500, respectively. Mr. Gallacher was not employed with us at the end of the year and as such did not receive a cash bonus for 2012. Our compensation committee has established a set of corporate objectives pursuant to which they may award our executive officers discretionary cash bonuses for their performance during 2013.

Long-Term Incentives. All options granted to our executive officers have been granted under the 2003 Plan. These options vest over a period of time, generally four years. Upon termination of employment for any reason other than cause, our vested stock options granted to our named executive officers do not terminate and instead remain outstanding for their full-term of ten years. In the future, our compensation committee, with the approval of our board and stockholders, may grant to our named executive officers under the 2012 Plan, incentive stock options, non-qualified stock options, restricted and unrestricted stock awards, or stock-based awards, including RSUs and other stock based awards. See "—Equity Incentive Plans—2012 Plan" below for additional details about the 2012 Plan.

In March 2012, our board approved the cancellation of stock options held by current employees and members of our board with exercise prices above $1.00 per share, replacing such options with new options for an equivalent number of shares with exercise prices of $1.00 per share, ten year terms to expiration and that were fully vested as of the date of grant. Our named executive officers exchanged the following options: (i) Mr. Gallacher exchanged an aggregate of 165,000 options; and (ii) Mr. McEntire exchanged 210,000 options for an equal number of options. None of Mr. Olson's or Mr. Davis' options were cancelled because they held no options which had exercise prices over $1.00. Our board also approved the award of 500,000 options to Mr. Olson in June, 2012 in connection with his promotion to Chief Executive Officer and President.

In January 2013, we offered to each employee and director that held options to acquire shares of our common stock awarded under the 2003 Plan the opportunity to exchange such options for RSUs to be issued under the 2012 Plan on a one-for-one basis. As a result of the exchange offer, 2,422,000 RSUs were issued under the 2012 Plan in February 2013. Mr. Olson, Mr. McEntire and Mr. Davis exchanged stock options and received 600,000, 415,000 and 175,000 RSUs, respectively. These RSUs expire three years from the date of grant and will only vest upon (i) the date of the expiration of the lock-up period imposed on the employees and directors after completion of the closing of an underwritten initial public offering of the shares of our commons stock or (ii) upon a change in control provided, in each case, that the individual is providing services to us on such date.

In June 2013, in lieu of granting stock options, our board approved a grant of RSUs to our named executive officers. The RSUs, which were awarded based on our 2012 performance, will vest solely upon continued service with us and upon the occurrence of either of the following events: (i) the date of expiration of the lock-up period imposed in connection with the closing of an underwritten initial public offering of shares of our common stock or (ii) the date of a closing of a change in control, in each case, provided that the executive officer is providing services to us on such date and such event occurs within three years from the grant date. Accordingly, Mr. Olson, Mr. McEntire and Mr. Davis received 50,000, 25,000 and 25,000 RSUs, respectively.

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Outstanding Equity Awards at Fiscal Year-End

The following table shows information regarding equity awards held by our named executive officers as of December 31, 2012.

	Option Awards			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Eric K. Olson	27,083(1)(4)	72,917(1)(4)	1.00	12/8/2021
Chief Executive Officer and President				
	—	75,000(1)(4)	1.00	3/15/2022
	—	425,000(1)(4)	1.00	3/15/2022
Bryan J. McEntire	200,000(1)		0.25	6/8/2014
Chief Technology Officer				
	15,000(1)(4)	—	0.60	12/15/2014
	30,000(1)(4)	—	1.00	2/12/2016
	30,000(1)(4)	—	1.00	12/11/2016
	22,500(1)(4)	7,500(1)(4)	1.00	12/9/2020
	27,083(1)(4)	72,917(1)(4)	1.00	12/8/2021
	25,000(2)(4)	—	1.00	3/15/2022
	85,000(2)(4)	—	1.00	3/15/2022
	25,000(2)(4)	—	1.00	3/15/2022
	25,000(2)(4)	—	1.00	3/15/2022
	50,000(2)(4)	—	1.00	3/15/2022
Reyn E. Gallacher	40,000(3)	—	1.00	2/12/2016
Former Chief Financial Officer, Vice President of Finance and Chief Compliance Officer				
	30,000(3)	—	1.00	12/11/2016
	52,083(3)	—	1.00	12/09/2020
	93,750(3)	—	1.00	12/09/2020
	25,000(2)(3)	—	1.00	3/15/2022
	100,000(2)(3)	—	1.00	3/15/2022
	20,000(2)(3)	—	1.00	3/15/2022
	20,000(2)(3)	—	1.00	3/15/2022
Kevin Davis	29,688(1)(4)	45,312(1)(4)	1.00	6/16/2021
Chief Operating Officer				
	27,083(1)(4)	72,917(1)(4)	1.00	12/8/2021

(1) Reflects time-based options to purchase shares of our common stock that vest as to 25% of the shares subject to the option on the first anniversary of the grant date and thereafter in equal monthly installments over 36 months beginning one year after the grant date, generally subject to the executive's continued employment.

(2) In March 2012, our board of directors approved the cancellation of stock options granted to active employees and directors at prices above $1.00 per share and the replacement of such options for new options with an exercise price of $1.00 per share for the same number of shares, new ten year term and are fully vested on the date of grant.

(3) Mr. Gallacher's employment with us was terminated on December 3, 2012. His unvested stock options were cancelled and the vested stock options, which totaled 380,833, were converted into non-qualified stock options, or NQSOs. These options will remain exercisable until the expiration dates set forth above.

(4) Options were exchanged for an equal number of RSUs in February 2013.

Retirement Benefits

401(k) Plan

Our employee savings plan is a tax-qualified profit sharing plan that includes a “cash-or-deferred” (or 401(k)) feature. The plan is intended to satisfy the requirements of Section 401 of the Internal Revenue Code. Our employees may elect to reduce their current compensation by up to the statutorily prescribed annual limit and have a like amount contributed to the plan. In addition, we may make discretionary and/or matching contributions to the plan in amounts determined annually by our board. We currently elect to match the contributions of our employees who participate in our 401(k) plan as follows: a match of 100% on the first 3% of compensation contributed by a plan participant and a match of 50% on amounts above 3%, up to 5%, of compensation contributed by a plan participant. In 2012, our employer contribution to the plan was $151,498.

Potential Payments Upon Termination or Change in Control

We have entered into certain agreements and maintain certain plans that may require us to make certain payments and/or provide certain benefits to the executive officers named in the Summary Compensation Table in the event of a termination of employment or change in control.

Pursuant to our severance agreements with Mr. Olson and Mr. McEntire, if a change in control occurs and at any time during the 12-month period following the change in control (i) we or our successor terminate the executive’s employment other than for cause (but not including termination due to the executive’s death or disability) or (ii) the executive terminates his employment for good reason, then such executive has the right to receive payment consisting of (i) a lump sum payment equal to two times his highest annual salary with us in the preceding three-year period and (ii) the full vesting of all outstanding options, restricted stock and other similar rights held by the executive. In the same circumstances, pursuant to our severance agreement with Mr. Davis, he has the right to receive a severance payment consisting of (i) a lump sum payment equal to his highest annual salary with us in the preceding three-year period and (ii) the full vesting of all outstanding options, restricted stock units and other similar rights held by him. “Change in Control” is defined in the severance agreements as occurring upon (i) any “person” (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becoming the “beneficial owner” (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities representing 50% or more of the total voting power represented by our then outstanding voting securities (excluding securities held by us or our affiliates or any of our employee benefit plans) pursuant to a transaction or a series of related transactions which our board did not approve; (ii) a merger or consolidation of our Company, other than a merger or consolidation which would result in our voting securities outstanding immediately prior thereto continuing to represent at least 50% of the total voting securities or such surviving entity or parent of such corporation outstanding immediately after such merger or consolidation; or (iii) the approval by our stockholders of an agreement for the sale or disposition of all or substantially all of our assets. As defined in the severance agreements, “cause” means: (i) the executive’s commission of a felony (other than through vicarious liability or through a motor vehicle offense); (ii) the executive’s material disloyalty or dishonesty to us; (iii) the commission by the executive of an act of fraud, embezzlement or misappropriation of funds; (iv) a material breach by the executive of any material provision of any agreement to which the executive and we are party, which breach is not cured within 30 days after our delivery to the executive of written notice of such breach; or (v) the executive’s refusal to carry out a lawful written directive from our board. “Good reason” as defined in the severance agreements means, without the executive’s consent: (i) a change in the principal location at which the executive performs his duties to a new work location that is at least 50 miles from the prior location; or (ii) a material change in the executive’s authority, functions, duties or responsibilities, which would cause his position with us to become of less responsibility, importance or scope than his prior position, provided, however, that such material change is not in connection with the termination of the executive’s employment with us for any reason.

Mr. Gallacher did not have a severance agreement with us. Accordingly, upon the termination of his services he did not receive a severance payment and his unvested stock options expired. At the time of his termination, he had 380,833 vested options with an exercise price of $1.00. Mr. Gallacher may exercise those options at any time through their expiration, ten years from their date of grant. At the time of his termination he entered into a

consulting agreement with us. Pursuant to the terms of the consulting agreement, we paid Mr. Gallacher a fee of $7,500 for financial services provided to us in December 2012 and $2,500 per month thereafter. The agreement was terminated in July 2013.

Equity Incentive Plans

2003 Plan

The 2003 Plan was approved by our board and our stockholders on August 3, 2003 and terminated in September 2012. As such, no additional awards may be made under the 2003 Plan. The 2003 Plan provided for the granting of incentive stock options and NQSOs to our employees, officers, directors and consultants. As of June 30, 2013, there were options to purchase 3,958,485 shares of our common stock outstanding under the 2003 Plan.

Plan Administration. Our board is the administrator of the 2003 Plan, except that it may also delegate such authority to a committee of the board, in which case the committee shall be the administrator. Our board has delegated authority to administer the 2003 Plan to the compensation committee.

Termination of Service. Unless otherwise provided in an award agreement, upon a termination of a participant's service for cause (as defined in the 2003 Plan), all options then held by the participant will terminate. Upon termination, vested options remain outstanding for their full ten year term.

Transferability. Generally, awards under the 2003 Plan may not be transferred except by will or by the laws of descent and distribution. However, NQSOs may be transferred for no consideration for the benefit of a participant's immediate family.

Adjustment. In the event of a stock dividend, stock split, recapitalization or reorganization or other change in capital structure, the 2003 Plan administrator will make appropriate adjustments to the number and kind of shares of stock or securities subject to outstanding options.

Corporate Transaction. Unless otherwise provided in a participant's award agreement, if we are acquired, the administrator of the 2003 Plan may provide for the substitution of all the outstanding option awards by the acquiring or surviving entity. If the awards are not so assumed or substituted, each stock option may, upon written notice to the participants, vest (either to the extent exercisable or at the discretion of the administrator, or upon a change of control, in full) and become fully exercisable. Otherwise, the administrator may terminate all outstanding options in exchange for cash payment equal to the excess of the fair market value of the shares subject to such options (either to the extent exercisable or at the discretion of our compensation committee, or upon a change of control, in full) over the exercise price of such options.

Amendment of Outstanding Options. The administrator may amend any term or condition of an outstanding option provided that any such amendment shall be made only with the consent of the participant if the amendment is adverse to the participant.

2012 Plan

In September 2012, our board adopted the 2012 Plan and reserved for issuance under the 2012 Plan the aggregate sum of (i) 4,000,000 shares of our common stock and (ii) any shares of our common stock represented by awards granted under the 2003 Plan that are forfeited, expire or are cancelled without delivery of shares of our common stock after September 6, 2012. Subject to adjustment, as of June 30, 2013, the maximum number of shares that may be delivered in satisfaction of awards under the 2012 Plan is 7,537,704 shares. The 2012 Plan is intended to encourage ownership of common stock by our employees and directors and certain of our consultants in order to attract and retain such people, to induce them to work for the benefit of us and to provide additional incentive for them to promote our success.

Types of Awards. The 2012 Plan provides for the granting of incentive stock options, NQSOs, stock grants and other stock-based awards, including RSUs.

- *Incentive and Nonqualified Stock Options*. The plan administrator determines the exercise price of each stock option. The exercise price of an NQSO may not be less than the fair market value of our common stock on the

date of grant. The exercise price of an incentive stock option may not be less than the fair market value of our common stock on the date of grant if the recipient holds 10% or less of the combined voting power of our securities, or 110% of the fair market value of a share of our common stock on the date of grant otherwise.

- *Stock Grants*. The plan administrator may grant or sell stock, including restricted stock, to any participant, which purchase price, if any, may not be less than the par value of shares of our common stock. The stock grant will be subject to the conditions and restrictions determined by the administrator. The recipient of a stock grant shall have the rights of a stockholder with respect to the shares of stock issued to the holder under the 2012 Plan.
- *Stock-Based Awards*. The administrator of the 2012 Plan may grant other stock-based awards, including stock appreciation rights, phantom stock awards and RSUs, with terms approved by the administrator, including restrictions related to the awards. The holder of a stock-based award shall not have the rights of a stockholder until shares of our common stock are issued pursuant to such award.

Plan Administration. Our Board is the administrator of the 2012 Plan, except to the extent it delegates its authority to a committee, in which case the committee shall be the administrator. Our board has delegated this authority to our compensation committee. The administrator has the authority to determine the terms of awards, including exercise and purchase price, the number of shares subject to awards, the value of our common stock, the vesting schedule applicable to awards, the form of consideration, if any, payable upon exercise or settlement of an award and the terms of award agreements for use under the 2012 Plan.

Eligibility. Our Board will determine the participants in the 2012 Plan from among our employees, directors and consultants. A grant may be approved in advance with the effectiveness of the grant contingent and effective upon such person's commencement of service within a specified period.

Termination of Service. Unless otherwise provided by our board or in an award agreement, upon a termination of a participant's service, all unvested options then held by the participant will terminate and all other unvested awards will be forfeited.

Transferability. Awards under the 2012 Plan may not be transferred except by will or by the laws of descent and distribution, unless otherwise provided by our board in its discretion and set forth in the applicable agreement, provided that no award may be transferred for value.

Adjustment. In the event of a stock dividend, stock split, recapitalization or reorganization or other change in change in capital structure, our Board will make appropriate adjustments to the number and kind of shares of stock or securities subject to awards.

Corporate Transaction. If we are acquired, our board of directors (or compensation committee) will (i) arrange for the surviving entity or acquiring entity (or the surviving or acquiring entity's parent company) to assume or continue the award or to substitute a similar award for the award; (ii) cancel or arrange for cancellation of the award, to the extent not vested or not exercised prior to the effective time of the transaction, in exchange for such cash consideration, if any, as our board of directors in its sole discretion, may consider appropriate; and (iii) make a payment, in such form as may be determined by our board of directors equal to the excess, if any, of (A) the value of the property the holder would have received upon the exercise of the award immediately prior to the effective time of the transaction, over (B) any exercise price payable by such holder in connection with such exercise. In addition in connection with such transaction, our board of directors may accelerate the vesting, in whole or in part, of the award (and, if applicable, the time at which the award may be exercised) to a date prior to the effective time of such transaction and may arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us with respect to an award.

Amendment and Termination. The 2012 Plan will terminate on September 6, 2022 or at an earlier date by vote of the stockholders or our board; provided, however, that any such earlier termination shall not affect any awards granted under the 2012 Plan prior to the date of such termination. The 2012 Plan may be amended by our board, except that our board may not alter the terms of the 2012 Plan if it would adversely affect a participant's rights under an outstanding stock right without the participant's consent. Stockholder approval will be required for any

amendment to the 2012 Plan to the extent such approval is required by law, include the Internal Revenue Code or applicable stock exchange requirements.

Amendment of Outstanding Awards. The administrator may amend any term or condition of any outstanding award including, without limitation, to reduce or increase the exercise price or purchase price, accelerate the vesting schedule or extend the expiration date, provided that no such amendment shall impair the rights of a participant without such participant's consent.

Director Compensation

The following table shows the total compensation paid or accrued during the fiscal year ended December 31, 2012 to each of our non-employee directors.

Name	Fees Earned or Paid in Cash ($)	Stock Option Grants ($)(1)(2)	Total ($)
Max E. Link, Ph.D.	37,125	9,525	46,650
B. Sonny Bal, M.D.	24,300	26,300(3)	50,600
Gregg R. Honigblum(4)	32,625	30,725	63,350
Jay Moyes	8,043	—	8,043
Rohit Patel(5)	41,175	9,525	50,700
George Singer(6)	12,900	—	12,900
David Truetzel	38,025	—	38,025

(1) As of December 31, 2012, our directors held the following aggregate number of stock options: Dr. Link, 97,500; Dr. Bal, 82,500; Mr. Honigblum, 107,500; Mr. Patel, 232,500; and Mr. Truetzel, 70,000. Messrs. Moyes and Singer did not hold any stock options or other stock awards as of December 31, 2012.

(2) Amount shown for Dr. Bal reflects the grant date fair value of the options awarded in 2012 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*, and the $4,200 incremental fair value of stock options issued to Dr. Bal in exchange for outstanding options with exercise prices over $1.00 in March 2012. Amounts shown for Mr. Link and Messrs. Honigblum and Patel reflect the incremental fair value of stock options issued to these directors in exchange for outstanding stock options with exercise prices over $1.00 in March 2012. These amounts exclude the value of estimated forfeitures. Assumptions used in the calculation of these amounts are included in Note 8 to our financial statements included elsewhere in this prospectus.

(3) Reflects a one-time stock option grant of 40,000 options upon his appointment to our Board in February 2012. The option vests monthly over one year and has a ten-year term.

(4) Mr. Honigblum resigned from our board of directors in September 2013.

(5) Mr. Patel resigned from our board of directors in September 2013.

(6) Mr. Singer resigned from our board of directors in September 2013.

We compensate each of the non-employee members of our Board in accordance with the following annual retainer and meeting fees (paid on a quarterly basis):

• Board member Annual Retainer	$20,000
• Board Chair Annual Additional Retainer	$10,000
• Committee Chair Annual Retainer	$ 7,500
• Committee member Annual Retainer	$ 3,750
• Board meeting-in person attendance	$ 1,500
• Board meeting-telephonic attendance	$ 1,000
• Committee meeting attendance	$ 1,500
• Committee meeting-telephonic attendance	$ 1,000

In addition to cash compensation, the non-employee members of our Board have historically been awarded an annual stock option grant in the amount of 15,000 shares of our common stock. However, no stock options were granted to our directors in 2012, with the exception of a stock option grant of 40,000 shares under the 2003 Plan which was granted to Dr. Bal upon his appointment to our Board in February 2012. Dr. Bal's option vests monthly over one year from the date of issuance. In January 2013, we offered to each director that held options to acquire shares awarded under the 2003 Plan, the opportunity to exchange such options for an equal number of RSUs. Mr. Patel exchanged stock options and received 232,500 RSUs under the 2012 Plan. These RSUs expire three years from the date of grant and will only vest upon continued service with us and if either of the following events occurs prior to the expiration date: (i) the date of the expiration of the lock-up period imposed on the directors after completion of the closing of an underwritten initial public offering of the shares of our commons stock or (ii) upon a change of control (as defined in the 2012 Restricted Stock Unit Agreement).

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following includes a summary of transactions since January 1, 2010 to which we have been a party, in which the amount involved in the transaction exceeded $120,000, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of our common stock, on an as converted basis, or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under "Executive and Director Compensation." With the approval of our board of directors, we have engaged in the transactions described below with our directors, executive officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and affiliates of our directors, executive officers and 5% stockholders.

Acquisition of US Spine, Inc. and Transactions with MSK Investments, LLC and its Affiliates

Acquisition of US Spine, Inc.

In September 2010, we acquired US Spine, Inc., or US Spine. In this transaction, US Spine became our wholly owned subsidiary as we acquired all of the outstanding capital stock of US Spine for up to $42.6 million payable by the following:

- the issuance of 7,150,000 shares of our Series E convertible preferred stock, of which 333,750 shares were paid to Spinal Management LLC an advisor of US Spine as a transaction fee payment and 1,806,250 shares were placed in an escrow to cover indemnification claims under the acquisition agreement;
- the issuance of up to 6,250,000 shares of our Series E convertible preferred stock upon the achievement of certain earnout milestones, which we refer to as the US Spine Earnout;
- the issuance of up to 350,000 shares of our Series E convertible preferred stock if we did not issue certain US Spine sales agents a specified number of warrants to purchase our common stock within three years after the closing of the acquisition; and
- the payment of $15.1 million in cash to certain debt holders of US Spine, including $9.1 million paid at closing and $6.0 million payable pursuant to a promissory note, or the US Spine Note, issued in favor of MSK Investments, LLC, or MSK. The US Spine Note was payable in two installments of $3.0 million payable in September 2011 and September 2012, provided, that $1.0 million of the first installment was payable if we raised $20.0 million or more in equity financing before September 2011.

As a result of this transaction, MSK, a company controlled by James G. Koman, together with its affiliates, became a beneficial owner of more than 5% of our common stock, on an as converted basis, and David Truetzel, a 50% co-owner of Spinal Management LLC, became a member of our board of directors. MSK and its affiliates received 5,127,353 shares of our Series E convertible preferred stock, $244,000 in cash and the US Spine Note. Mr. Truetzel received $90,000 for past services to US Spine and 50% interest in the shares of our Series E convertible preferred stock issued to, and a $667,500 cash payment made to Spinal Management LLC.

Settlement Agreement with MSK Investments, LLC

In May 2012, we entered into a settlement agreement with Mr. Koman and MSK, on its own behalf and acting in its capacity as stockholders' representative for the former stockholders of US Spine, to resolve certain disputes. Pursuant to the settlement agreement, in lieu of the US Spine Earnout, we issued (a) 842,438 shares of our Series E convertible preferred stock to the former stockholders of US Spine, of which 39,249 shares were issued to MSK and its affiliates, and (b) 2,557,562 shares of our Series C convertible preferred stock to MSK. We also agreed to release the 1,806,250 shares of our Series E convertible preferred stock from escrow, of which 1,380,654 were received by MSK and its affiliates. MSK and Mr. Koman also agreed to certain standstill covenants in our favor that expire on May 10, 2015. Spinal Management LLC also received a commission that was paid in 42,122 and 127,878 of the shares of our Series E convertible preferred stock and Series C convertible preferred stock, respectively, issued under the settlement agreement.

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Restructuring and Payment of the US Spine Note

In October 2012, we restructured the terms of the US Spine Note to extend the maturity date of the second $3.0 million installment from September 2012 to December 2012. We made payments to MSK of $500,000 on October 31, 2012 and $2,500,000 on December 17, 2012 in connection with this restructuring.

Private Placement of Series E Convertible Preferred Stock

Between March 2010 and July 2010, we issued an aggregate of 7,209,273 shares of our Series E convertible preferred stock at a purchase price of $2.00 per share to 147 accredited investors, including an aggregate of 1,706,396 shares to the following directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and their affiliates:

Name	Number of Shares of Series E Convertible Preferred Stock	Aggregate Purchase Price
Max E. Link, Ph.D.	25,000	$ 50,000
B. Sonny Bal, M.D.(1)	115,000	$ 230,000
Rohit Patel(2)	13,125	$ 26,250
Gregg R. Honigblum(3)	56,250	$ 112,500
George A. Singer(4)	125,062	$ 250,125
Karl Kipke(5)	319,542	$ 639,084
Kevin Murphy	112,500	$ 225,000
Alan Lyons(6)	939,917	$ 1,879,834

(1) Includes 90,000 shares that were jointly issued to Dr. Bal and his spouse, as well as 12,500 shares that were issued to Dr. Bal's father, and 12,500 shares that were issued to Dr. Bal's brother.

(2) Shares are held by The Patel Family Trust U/A/D November 7, 1996, of which Mr. Patel and his spouse are the sole beneficiaries. Mr. Patel resigned from our board of directors in September 2013.

(3) Includes 50,000 shares that were issued to Mr. Honigblum and 50% of the 12,500 shares that were issued to Creation Capital, LLC, of which Mr. Honigblum is a 50% owner. Mr. Honigblum is a managing member of Creation Capital, LLC. Mr. Honigblum resigned from our board of directors in September 2013.

(4) Consists of 50% of the 250,125 shares issued to Singer Bros. LLC, of which Mr. Singer is a 50% owner. Mr. Singer is a managing member of Singer Bros. LLC. Mr. Singer resigned from our board of directors in September 2013.

(5) Shares were issued to Hampshire Healthcare Partners, LP. Hampshire Special Opportunities, LLC is the general partner of Hampshire Healthcare Partners, LP. Mr. Kipke is the managing member of Hampshire Special Opportunities, LLC.

(6) Includes 879,357 shares that were issued to Vestal Venture Capital and 60,560 shares that were issued to Lyonshare Venture Capital. Mr. Lyons is the managing member and sole owner of 21st Century Strategic Investment Planning, LLC, the general partner of both Vestal Venture Capital and Lyonshare Venture Capital.

Investors participating in the February 2010 closing that purchased at least 12,500 shares of our Series E convertible preferred stock had the right to convert, on a one-for-one basis, shares of our previously issued Series A convertible preferred stock, Series B convertible preferred stock, Series C convertible preferred stock and Series D convertible preferred stock already owned by the investor into a corresponding new series of our convertible preferred stock with a more favorable conversion rate. Directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and their affiliates participated in this conversion right as follows:

Name	Number of Shares of Series A-1 Convertible Preferred Stock	Number of Shares of Series B-1 Convertible Preferred Stock	Number of Shares of Series C-1 Convertible Preferred Stock	Number of Shares of Series D-1 Convertible Preferred Stock
Max E. Link, Ph.D.	333,334	—	—	—
B. Sonny Bal, M.D.(1)	—	300,000	100,000	120,000
Rohit Patel(2)	—	—	—	35,000
Gregg R. Honigblum(3)	530,500	92,890	—	—
George A. Singer(4)	—	—	—	333,500
Karl Kipke(5)	—	—	—	181,000
Kevin Murphy	—	—	150,000	290,500
Alan Lyons(6)	1,403,854	851,251	1,112,500	1,110,000

(1) Includes 300,000 Series B-1 shares and 120,000 Series D-1 shares that were jointly issued to Dr. Bal and his spouse and 50,000 Series C-1 shares that were issued to each of Dr. Bal's father and brother.

(2) Shares were issued to The Patel Family Trust U/A/D November 7, 1996, of which Mr. Patel and his spouse are the sole beneficiaries. Mr. Patel resigned from our board of directors in September 2013.

(3) Includes 468,000 Series A-1 shares and 92,980 Series B-1 shares issued to Mr. Honigblum and 50% of the 125,000 Series A-1 shares that were issued to Creation Capital, LLC. Mr. Honigblum is a 50% owner and a managing member of Creation Capital, LLC. Mr. Honigblum resigned from our board of directors in September 2013.

(4) Includes 50% of the 667,000 shares issued to Singer Bros. LLC. Mr. Singer is a managing member of Singer Bros. LLC. Mr. Singer resigned from our board of directors in September 2013.

(5) Shares were issued to Hampshire Healthcare Partners, LP. Hampshire Special Opportunities, LLC is the general partner of Hampshire Healthcare Partners, LP. Mr. Kipke is the managing member of Hampshire Special Opportunities, LLC.

(6) Includes 898,491 Series A-1 shares that were issued to Vestal Venture Capital and 505,363 Series A-1 shares that were issued to Lyonshare Venture Capital; 705,238 Series B-1 shares that were issued to Vestal Venture Capital and 146,013 Series B-1 shares held by Lyonshare Venture Capital; and 1,122,500 shares of Series C-1 shares and 1,110,000 shares of Series D-1 shares that were issued to Vestal Venture Capital. Mr. Lyons is the managing member and sole owner of 21 st Century Strategic Investment Planning, LLC, the general partner of both Vestal Venture Capital and Lyonshare Venture Capital.

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Private Placement of Senior Secured Subordinated 6%/8% Convertible Promissory Notes

Between March and May 2011, we issued an aggregate principal amount of $24.8 million of Senior Secured Subordinated 6%/8% Convertible Promissory Notes, or the Senior Secured Notes, and warrants to purchase 7,443,750 shares of our common stock at an exercise price of $2.00 per share to 85 accredited investors. In connection with the initial closing of this offering, we received a commitment from Hampshire Med Tech Partners, LP to purchase an additional $5.0 million Senior Secured Note by no later than the first anniversary of the initial closing (upon 30 days written notice to fund). Pursuant to this commitment, we issued an additional $5 million Senior Secured Note in February 2012. We issued an aggregate principal amount of $12,262,500 of our Senior Secured Notes and warrants to purchase up to 3,065,625 shares of our common stock to the following directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis and their affiliates:

Name	Principal Amount of Senior Secured Notes	Common Stock Warrants
Max E. Link Ph.D.	$50,000	12,500
David Truetzel(1)	$25,000	6,250
Alan Lyons(2)	$950,000	237,500
Gregg R. Honigblum(3)	$12,500	3,125
Karl Kipke(4)	$10,000,000	2,500,000
B. Sonny Bal, M.D.(5)	$25,000	6,250
Kevin Murphy	$1,200,000	300,000

(1) Includes a Senior Secured Note and common stock warrant issued to Truetzel Revocable Trust, of which Mr. Truetzel and his spouse are the sole beneficiaries.

(2) Senior Secured Note and common stock warrant issued to Vestal Venture Capital. Mr. Lyons is the managing member and sole owner of 21st Century Strategic Investment Planning, LLC, the general partner of Vestal Venture Capital.

(3) Consists of 50% of the principal amount of a Senior Secured Note and common stock warrant issued to Creation Capital, LLC. Mr. Honigblum is a 50% owner and a managing member of Creation Capital, LLC. Mr. Honigblum resigned from our board of directors in September 2013.

(4) Senior Secured Notes and common stock warrants issued to Hampshire Med Tech Partners, LP, in which Mr. Kipke has an ownership interest. Mr. Kipke is the managing member of Hampshire Med Tech Partners, GP LLC, its general partner.

(5) Senior Secured Note and common stock warrant issued to Dr. Bal’s father.

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Restructuring and Conversion of Senior Secured Subordinated 6%/8% Convertible Promissory Notes

In December 2012, we amended the terms of our Senior Secured Notes and the holders thereof converted all of their Senior Secured Notes into an aggregate of 14,887,500 shares of our Series F convertible preferred stock. We also amended the terms of the warrants issued in connection with the issuance of the Senior Secured Notes to lower the exercise prices thereof from $2.00 per share to $1.00 per share. As a result, we issued an aggregate of 6,131,250 shares of our Series F convertible preferred stock to the following directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and their affiliates:

Name	Number of Shares of Series F Convertible Preferred Stock
Max E. Link, Ph.D.	25,000
David Truetzel(1)	12,500
Alan Lyons(2)	475,000
Gregg R. Honigblum(3)	6,250
Karl Kipke(4)	5,000,000
B. Sonny Bal, M.D.(5)	12,500
Kevin Murphy	600,000

(1) Includes 12,500 shares that were issued to Truetzel Revocable Trust, of which Mr. Truetzel and his spouse are the sole beneficiaries.
(2) Shares were issued to Vestal Venture Capital. Mr. Lyons is the managing member and sole owner of 21st Century Strategic Investment Planning, LLC, the general partner of Vestal Venture Capital.
(3) Represents 50% of the 12,500 shares that were issued to Creation Capital, LLC. Mr. Honigblum is a 50% owner and a managing member of Creation Capital, LLC. Mr. Honigblum resigned from our board of directors in September 2013.
(4) Shares were issued to Hampshire Med Tech Partners, LP. Mr. Kipke is the managing member of Hampshire Med Tech Partners, GP LLC, its general partner.
(5) Shares were issued to Dr. Bal's father.

Warrant Restructuring and Private Placement of Common Stock

In March 2013, we amended the terms of certain of the common stock warrants issued in connection with the issuance of the Senior Secured Notes to further lower the exercise prices thereof from $1.00 per share to $0.68 per share. We then issued an aggregate of 4,601,177 shares of our common stock to 33 accredited investors upon exercise of the amended common stock warrants and the sale of additional shares of our common stock to other investors in the offering at $0.68 per share. We also issued to investors who exercised their common stock warrants new warrants to purchase an aggregate of 458,088 shares of our common stock at an exercise price of $0.68 per share. We issued an aggregate of 1,375,000 shares of our common stock and new warrants to purchase up to 458,088 shares of our common stock at an exercise price of $0.68 per share to the following directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and their affiliates:

Name	Common Stock upon Exercise of Warrants	New Common Stock	New Common Stock Warrants
Alan Lyons(1)	237,500	—	237,500
Kevin Murphy	220,588	—	220,588
Karl Kipke(2)	—	1,375,000	—

(1) Represents the exercise of common stock warrants by, and issuance of common stock warrants to, Vestal Venture Capital. Mr. Lyons is the managing member and sole owner of 21st Century Strategic Investment Planning, L.L.C., the general partner of Vestal Venture Capital.
(2) Represents 1,375,000 shares of common stock purchased by Hampshire Med Tech Partners, LP. Mr. Kipke is the managing member of Hampshire Med Tech Partners GP, LLC, its general partner.

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Private Placement of Series F Convertible Preferred Stock

In August 2013 and September 2013, we issued an aggregate of 94.8 units, each unit consisting of 50,000 shares of our Series F convertible preferred stock and a warrant to acquire 25,000 shares of our common stock at an exercise price of $1.00 per share, to 45 accredited investors at $100,000 per unit. This resulted in our issuance of an aggregate of 4,740,000 shares of our Series F convertible preferred stock and warrants to purchase an aggregate of 2,370,000 shares of our common stock, including an aggregate of 1,125,000 shares and warrants to purchase an aggregate of 537,500 shares to the following directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and their affiliates:

Name	Number of Units	Purchase Price	Number of Shares of Series F Convertible Preferred Stock	Common Stock Warrants
Max E. Link, Ph.D.	2.0	$ 200,000	100,000	25,000
B. Sonny Bal, M.D.	1.5	$ 150,000	75,000	37,500
David W. Truetzel(1)	1.0	$ 100,000	50,000	25,000
Jay M. Moyes(2)	0.5	$ 50,000	25,000	12,500
George Singer(3)	1.0	$ 100,000	50,000	25,000
Alan Lyons(4)	3.5	$ 350,000	175,000	87,500
James G. Koman(5)	1.0	$ 100,000	50,000	25,000
Kevin Murphy	12.0	$ 1,200,000	600,000	300,000

(1) Investment made by Truetzel Revocable Trust, of which Mr. Truetzel and his spouse are the sole beneficiaries.
(2) Investment made by Drayton Investments, LLC, of which Mr. Moyes is a managing member.
(3) Consists of 50% of the investment made by Singer Bros. LLC. Mr. Singer is a 50% owner and a managing member of Singer Bros. LLC. Mr. Singer resigned from our board of directors in September 2013.
(4) Investment made by Vestal Venture Capital. Mr. Lyons is the managing member and sole owner of 21 st Century Strategic Investment Planning, LLC, the general partner Vestal Venture Capital.
(5) Investment made by MSK Investments, LLC, of which Mr. Koman is the managing member.

Transactions with Creation Capital, LLC and Creation Capital Advisors, LLC

Mr. Gregg R. Honigblum, the Chief Executive Officer and a 50% co-owner of each of Creation Capital, LLC, or Creation Capital, and Creation Advisors, LLC, or Creation Advisors, served on our board of directors from 2006 until September 2013. We completed the offering of shares of our Series E convertible preferred stock between March 2010 and July 2010 through Creation Capital, which served as our placement agent. We paid Creation Capital approximately $1,135,000 and issued it a warrant to purchase 567,691 shares of Series E convertible preferred stock at an exercise price of $2.20 per share as commissions.

In connection with the private placement of our Senior Secured Notes between March 2011 and May 2011, Creation Capital served as our placement agent and received $1,049,000 and a warrant exercisable for 1,483,500 shares of common stock at an exercise price of $2.20 per share as commissions. In February 2012, when we issued an additional $5.0 million Senior Secured Note to Hampshire Med Tech Partners, LP, we paid Creation Capital an additional $212,500.

In June 2012, we entered into a financial advisor consulting agreement with Creation Advisors, pursuant to which we agreed to extend the termination date of the Series C convertible preferred stock warrants previously issued to Creation Capital from February 2013 to February 2018.

In connection with the conversion of our Senior Secured Notes in December 2012, we agreed to pay Creation Advisors a strategic financial advisory fee in the amount of approximately $447,000. We agreed to pay half of the advisory fee, approximately $223,000 in December 2012 and the remaining half within 24 months, which we paid in September 2013. Karl Kipke, who beneficially owns more than 5% of our common stock, received $60,000 from Creation Advisors in 2012, as a consultant for Creation Advisors, for advising Amedica at this time on its financing options.

Finally, in connection with the warrant restructuring and private placement of common stock in March 2013, we paid Creation Advisors a strategic financial advisory fee of approximately $250,000.

Registration Rights

The holders of shares of common stock, assuming the conversion of our convertible preferred stock, and holders of shares of common stock, assuming the exercise of preferred stock warrants and further assuming the conversion of such shares of convertible preferred stock, have entered into an agreement with us that provides certain registration rights to these holders and certain future transferees of their securities. See "Description of Capital Stock—Registration Rights" for a description of these rights. Such holders include the following directors, officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and their affiliates:

Name	Common Stock	Warrants

Equity Grants

We have granted options to purchase shares of our common stock and RSUs to our executive officers and directors. See "Executive and Director Compensation."

Change in Control Agreements

We have entered into severance agreements with our executive officers as described in the section of this prospectus entitled "Executive and Director Compensation—Potential Payments Upon Termination or Change in Control."

Indemnification Arrangements

Our restated certificate of incorporation and restated bylaws to be effective upon completion of this offering provide that we will indemnify our directors and officers to the fullest extent permitted by Delaware law. In addition, we expect to enter into indemnification agreements with each of our directors and executive officers prior to completion of the offering. A stockholder's investment in our common stock may decline in value to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to any indemnification provisions

Policy for Approval of Related Person Transactions

We believe that all the transactions described above were made on terms no less favorable to us than those that could have been obtained from unaffiliated third parties. With the exception of transactions in which related parties participated on the same terms as those of other participants who were not related parties, our board of directors reviewed and approved the transactions with each related party, namely our directors, executive officers and beneficial owners of more than 5% of our common stock, on an as converted basis, and affiliates of our directors, executive officers and 5% stockholders, and reviewed the material facts as to a related party's relationship or interest in a transaction that were disclosed to our board of directors prior to our board of directors' consideration of a transaction with a related party. The transactions involving related parties were approved by our board of directors, including all of our directors who were not interested in these transactions.

Following this offering, all future related party transactions will be approved by our audit committee. Pursuant to the written charter of our audit committee, the audit committee is responsible for reviewing and approving, prior to our entry into any transaction involving related parties, all transactions in which we are a participant and in which any parties related to us has or will have a direct or indirect material interest.

In reviewing and approving these transactions, the audit committee shall obtain, or shall direct our management to obtain on its behalf, all information that the committee believes to be relevant and important to a review of the transaction prior to its approval. Following receipt of the necessary information, a discussion shall be held of the relevant factors, if deemed to be necessary by the committee, prior to approval. If a discussion is not deemed to be necessary, approval may be given by written consent of the committee. No related party transaction shall be entered into prior to the completion of these procedures.

The audit committee or its chairman, as the case may be, shall approve only those related party transactions that are determined to be in, or not inconsistent with, the best interests of us and our stockholders, taking into account all available facts and circumstances as the committee or the chairman determines in good faith to be necessary. No member of the audit committee shall participate in any review, consideration or approval of any related party transaction with respect to which the member or any of his or her immediate family members is the related party.

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PRINCIPAL STOCKHOLDERS

The following table sets forth certain information regarding the beneficial ownership of our common stock as of August 31, 2013 by:

- the executive officers named in the summary compensation table, including our former chief financial officer, vice president of finance and chief compliance officer;
- each of our current directors;
- all of our current directors and executive officers as a group; and
- each stockholder known by us to own beneficially more than 5% of our common stock.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the securities. Shares of common stock that may be acquired by an individual or group within 60 days of August 31, 2013, pursuant to the exercise of options or warrants, are deemed to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person shown in the table. The percentage ownership information under the column entitled "Before Offering" is based on 114,102,958 shares of common stock outstanding on August 31, 2013, which assumes the conversion of all outstanding shares of preferred stock into shares of common stock. The percentage ownership information under the column entitled "After Offering" is based on the sale of shares of common stock in this offering.

Except as indicated in footnotes to this table, we believe that the stockholders named in this table have sole voting and investment power with respect to all shares of common stock shown to be beneficially owned by them, based on information provided to us by such stockholders. The address for each director and executive officer listed is: c/o Amedica Corporation, 1885 West 2100 South, Salt Lake City, Utah 84119.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
Directors and Named Executive Officers:			
Max E. Link, Ph.D.(1)	1,243,501	1.1%	
B. Sonny Bal, M.D.(2)	1,008,733	*	
David W. Truetzel(3)	388,170	*	
Jay M. Moyes(4)	94,056	*	
Eric K. Olson(5)	—	*	
Bryan J. McEntire(6)	200,000	*	
Kevin Davis(7)	—	*	
Reyn Gallacher(8)	380,833	*	
All current directors and executive officers as a group (11 individuals)(9)	2,934,460	2.5%	
Five Percent Stockholder:			
Karl Kipke(10) Hampshire Group, LLC 500 Plaza on the Lake, Suite #103 Austin, TX 78746	12,767,340	10.1%	
Alan R. Lyons(11) 92 Hawley Street, P. O. Box 1330 Binghamton, NY 13902	9,688,906	8.5%	
James G. Koman(12) 8027 Forsyth Road St. Louis, MO 63105	8,709,720	7.6%	
Kevin Murphy(13) c/o TGP Securities, Inc. 75 Varick St., Suite 1510 New York, NY 10013	5,416,125	5.0%	

* Represents beneficial ownership of less than 1% of the shares of our common stock.

(1) Consists of 1,146,001 shares of our common stock, options to acquire 97,500 shares of our common stock currently exercisable or exercisable within 60 days of August 31, 2013, and does not include 15,000 RSUs. Also includes 12,500 common stock warrants that are immediately exercisable.

(2) Consists of 912,900 shares of our common stock held by Dr. Bal and his spouse, options to acquire 58,333 shares of our common stock currently exercisable or exercisable within 60 days of August 31, 2013. Also includes 37,500 common stock warrants that are immediately exercisable. Does not include 15,000 RSUs.

(3) Consists of 8,503 shares of our common stock held by Mr. Truetzel, 50% of 566,835 shares of our common stock held by Spinal Management, LLC, of which Mr. Truetzel is a 50% member, 65,000 shares of our common stock held by Truetzel Revocable Trust of which Mr. Truetzel and his spouse are the sole beneficiaries. Also includes 31,250 common stock warrants that are immediately exercisable. Does not include 15,000 RSUs.

(4) Consists of 55,556 shares of our common stock, 25,000 shares of our common stock that are beneficially owned by Drayton Investments, LLC, and 12,500 common stock warrants that are immediately exercisable beneficially owned by Drayton Investments, LLC. Mr. Moyes is a managing member of Drayton Investments, LLC. Does not include 15,000 RSUs.

(5) Does not include 650,000 RSUs.

(6) Consists of options to acquire 200,000 shares of our common stock currently exercisable or exercisable within 60 days of August 31, 2013, and does not include 440,000 RSUs.

(7) Does not include 175,000 RSUs.

(8) Mr. Gallacher's employment with us was terminated in December 2012. Consists of options to acquire 380,333 shares of our common stock that are immediately exercisable.

(9) Consists of 2,578,627 shares of our common stock, options to acquire 736,666 shares of our common stock, and 93,750 common stock warrants that are immediately exercisable. Does not include 1,675,000 RSUs.

(10) Consists of (i) 410,215 shares held by Mr. Kipke; (ii) 9,075,000 shares held by Hampshire Med Tech Partners, LP; (iii) 662,392 shares held by Hampshire Healthcare Partners, LP; and (iv) 418,875 shares held by Hampshire Asset Management, LLC. Hampshire Med Tech Partners GP, LLC ("Hampshire Med Tech") is the general partner of Hampshire Med Tech Partners, LP and Hampshire Special Opportunities, LLC ("Special Opportunities") is the general partner of Hampshire Healthcare Partners, LP. Mr. Kipke is the managing member of each of Hampshire Med Tech and Special Opportunities and the president of Hampshire Asset Management, LLC. Also includes 2,863,250 shares held by KM Healthcare Holdings, LP. No Footprints, LLC ("No Footprints") is the general partner of KM Healthcare Holdings, LP. Mr. Kipke is a managing member of No Footprints and shares voting and dispositive power with Mr. Murphy with respect to the shares held by KM Healthcare Holdings, LP.

(11) Consists of (i) 8,850,994 shares held by Vestal Venture Capital, LP ("Vestal"); and (ii) 1,053,046 shares held by Lyonshare Venture Capital LP ("Lysonshare"). 21st Century Strategic Investment Planning, LLC is the general partner of each of Vestal and Lyonshare. Mr. Lyons is the managing member of 21st Century Strategic Investment Planning, LLC and, accordingly, has voting and dispositive power with respect to the shares held by Vestal and Lyonshare. Also includes 84,866 shares of common stock issuable upon exercise of warrants.

(12) Consists of (i) 4,260,198 shares held by MSK Investments, LLC; (ii) 4,438,168 shares held by MCL Family Investments, LP; and (iii) 11,354 shares held by the James G. Koman Revocable Trust dated January 31, 1997, as amended (the "Koman Trust"). Mr. Koman is the trustee of the Koman Trust, the managing member of MSK Investments LLC, and the managing member of MCL Family Management, LLC, the general partner of MCL Family Investments, LP, and, accordingly, has voting and dispositive power with respect to the shares held by the Koman Trust, MSK Investments LLC and MCL Family Investments, LP.

(13) Consists of (i) 2,863,250 shares held by KM Healthcare Holdings, LP; and (ii) 2,552,875 shares held directly by Mr. Murphy. No Footprints is the general partner of KM Healthcare Holdings, LP. Mr. Murphy is a managing member of No Footprints and shares voting and dispositive power with Mr. Kipke with respect to the shares held by KM Healthcare Holdings, LP.

DESCRIPTION OF CAPITAL STOCK

Upon completion of this offering, we will be authorized to issue shares of common stock, $0.01 par value per share, and shares of preferred stock, $0.01 par value per share, and there will be shares of common stock and no shares of preferred stock outstanding. Assuming the conversion of our preferred stock as of June 30, 2013, we had 110,352,960 shares of common stock outstanding held of record by 546 separate stockholders, there were outstanding options to purchase 3,958,485 shares of common stock, 3,401,950 shares of common stock issuable upon the vesting of outstanding RSUs issued under the 2012 Stock Plan and outstanding warrants to acquire 12,066,659 shares of common stock, assuming the conversion of our preferred stock warrants into common stock warrants. The following description summarizes the most important terms of our capital stock. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, to be effective upon completion of this offering, copies of which have been filed as exhibits to the registration statement, and to the applicable provisions of the Delaware General Corporation Law.

Common Stock

Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, and do not have cumulative voting rights. Accordingly, the holders of a majority of the shares of our common stock entitled to vote can elect all of the directors standing for election. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of our common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our board of directors out of funds legally available for dividend payments. All outstanding shares of our common stock are fully paid and nonassessable, and the shares of our common stock to be issued upon completion of this offering will be fully paid and nonassessable. The holders of common stock have no preferences or rights of conversion, exchange, pre-emption or other subscription rights. There are no redemption or sinking fund provisions applicable to our common stock. In the event of any liquidation, dissolution or winding-up of our affairs, holders of our common stock will be entitled to share ratably in our assets that are remaining after payment or provision for payment of all of our debts and obligations and after liquidation payments to holders of outstanding shares of preferred stock, if any.

Preferred Stock

As of June 30, 2013, we had outstanding an aggregate of 76,170,394 shares of preferred stock held of record by 503 stockholders. Upon the closing of this offering, all outstanding shares of our preferred stock will have been converted into shares of our common stock. Following this offering, our amended and restated certificate of incorporation will be amended and restated to delete all reference to such shares of preferred stock. The preferred stock, if issued, would have priority over our common stock with respect to dividends and other distributions, including the distribution of assets upon liquidation. Our board of directors has the authority, without further stockholder authorization, to issue from time to time shares of preferred stock in one or more series and to fix the terms, limitations, relative rights and preferences and variations of each series. Although we have no present plans to issue any shares of preferred stock, the issuance of shares of preferred stock, or the issuance of rights to purchase such shares, could decrease the amount of earnings and assets available for distribution to the holders of common stock, could adversely affect the rights and powers, including voting rights, of the common stock, and could have the effect of delaying, deterring or preventing a change in control of us or an unsolicited acquisition proposal.

Warrants

As of June 30, 2013 we had the following warrants outstanding to purchase a total of 2,344,731 shares of our preferred stock and a total of 9,721,928 shares of our common stock:

- warrants purchase in the aggregate 1,203,750 shares of Series C convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 1,408,387 shares of our common stock at an exercise price of $2.20 per share, terminating in February 2018;

- warrants to purchase in the aggregate 253,290 shares of Series D convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 316,612 shares of common stock at an exercise price of $3.30 per share, terminating in April 2014;
- warrants to purchase in the aggregate 617,691 shares of Series E convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 685,637 shares of our common stock at an exercise price of $2.20 per share, terminating between March and September 2015;
- warrants to purchase in the aggregate 270,000 shares of Series F convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 280,800 shares of common stock at an exercise price of $2.00 per share, terminating in December 2022;
- warrants to purchase in the aggregate 568,678 shares of common stock at an exercise price of $3.30 per share, issued in June and August 2008, and terminating seven years from the date of issuance;
- a warrant to purchase 75,000 shares of common stock at an exercise price of $1.75 per share, issued in February 2010 and terminating on February 17, 2017;
- warrants to purchase in the aggregate 7,443,750 shares of common stock at an exercise price of $0.68 per share, originally issued between March and May 2011, and terminating seven years from the date of issuance;
- warrants to purchase in the aggregate 1,483,500 shares of common stock at an exercise price of $2.20 per share, issued on May 9, 2011, and terminating five years from the date of issuance;
- warrants to purchase in the aggregate 126,000 shares of common stock at an exercise price of $2.00 per share, issued between April 2011 and March 2012, and terminating three years from the date of issuance; and
- a warrant to purchase 25,000 shares of common stock at an exercise price of $2.00 issued on March 17, 2011.

These warrants provide for adjustments of the exercise price and the number of shares underlying the warrants upon the occurrence of certain events, including stock dividends, stock splits, reclassifications or other changes in our corporate structure. The holders of these warrants have registration rights that are outlined below under the heading "—Registration Rights."

Registration Rights

Holders of   shares of our Series E convertible preferred stock (other than those who received shares of Series E convertible preferred stock as a result of the 2010 merger with US Spine and the related settlement in 2012), Series A and A-1, Series B and B-1, Series C and C-1 (other than those who received shares of Series C convertible preferred stock as a result of the settlement in 2012), Series D and D-1 have entered into an agreement with us that provides certain registration rights to such holders and certain future transferees of their securities. These registration rights are subject to certain conditions and limitations, including our right, based on advice of the lead managing underwriter of a future offering, to limit the number of shares included in any such registration under certain circumstances. We are generally required to pay all expenses incurred in connection with registrations effected in connection with the registration rights below, excluding underwriting discounts and commissions. The registration rights described below with respect to these securities terminate upon the earlier to occur of (i) the effectiveness of a registration statement with respect to the sale of such securities under the Securities Act and the disposal of such securities in accordance with the registration statement; (ii) the owner of such securities is able to sell all of such securities in a three-month period pursuant to Rule 144 under the Securities Act; (iii) such securities shall become eligible for sale pursuant to Rule 144 under the Securities Act; or (iv) such securities shall have been otherwise transferred pursuant to the Securities Act or an available exemption and new certificates not bearing a legend restricting further transfer shall have been delivered by us, and subsequent disposition of such securities shall not require the registration or qualification of such securities under the Securities Act or any similar state law then in effect. The registration rights may be transferred to any purchaser or recipient of at least 50% of the shares purchased by such stockholders and holders of warrants to the extent they were original purchasers in the preferred stock offerings.

Demand Rights. At any time after 180 days following the completion of our initial public offering, subject to specified limitations, holders of not less than a majority of then existing registrable securities may require that we use commercially reasonable efforts to effect the registration on Form S-1 or Form S-3 (or any other form we are qualified to use) of securities owned by such holders having an aggregate anticipated price to the public of at least $10,000,000 (before selling expenses), or at least $5,000,000 (before selling expenses) in the case of a Form S-3 registration, for sale under the Securities Act. We may be required to effect up to four such registrations in total. We may be required to effect up to two such registrations during the one-year period following the date holders initially notify us of their request that we effect such a registration. Holders of registrable securities who are not among the holders who initially request that we effect a registration are entitled to notice and are entitled to include their shares of common stock in the registration.

Shelf Registration Rights. At any time after we become eligible to file a registration statement on Form S-3, holders of not less than a majority of registrable securities may request, in writing, that we effect the registration on Form S-3, or any successor or similar short form, of securities having an aggregate anticipated offering price to the public of at least $10,000,000 (before selling expenses). We may be required to effect up to two such registrations during the one-year period following the date holders initially notify us of their request that we effect such a registration. Holders with these registration rights who are not among the holders who initially requested that we effect a registration are entitled to notice and are entitled to include their shares of common stock in the registration.

Piggyback Rights. If, at any time commencing 180 days following the completion of our initial public offering, we propose to register shares of our common stock under the Securities Act in connection with a public offering of common stock solely for cash, we will, prior to such filing, give written notice to all holders having registration rights of our intention to do so. Upon the written request of any holder or holders of registrable securities given to us in a timely manner, we shall cause all securities which we have been requested by such holder or holders to register to be registered under the Securities Act to the extent necessary to permit their sale or other disposition in accordance with the intended methods of distribution specified in the request of the holder or holders. We shall have the right to withdraw any such registration without obligation to any stockholder, except for our obligation to pay all registration expenses related to such withdrawn registration. In addition, under certain circumstances, the underwriters, if any, may limit the number of shares included in any such registration. These piggyback registration rights do not apply to registrations of our securities that we initiate that are (i) incidental to any of our stock option plans or other employee benefit plans or a dividend reinvestment plan, (ii) incidental to a business combination or any other similar transaction, the purpose of which is not to raise capital, or (iii) pursuant to a so-called “unallocated” or “universal” shelf registration statement.

Effects of Anti-Takeover Provisions of Our Amended and Restated Certificate of Incorporation, Our Amended and Restated Bylaws and Delaware Law

The provisions of (1) Delaware law, (2) our amended and restated certificate of incorporation to be effective upon completion of this offering and (3) our amended and restated bylaws to be effective upon completion of this offering discussed below could discourage or make it more difficult to prevail in a proxy contest or effect other change in our management or the acquisition of control by a holder of a substantial amount of our voting stock. It is possible that these provisions could make it more difficult to accomplish, or could deter, transactions that stockholders may otherwise consider to be in their best interests or our best interests. These provisions are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by the board of directors and to discourage certain types of transactions that may involve an actual or threatened change in control of our company. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. These provisions also are intended to discourage certain tactics that may be used in proxy fights. These provisions also may have the effect of preventing changes in our management.

Delaware Statutory Business Combinations Provision. We are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of

three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. For purposes of Section 203, a "business combination" is defined broadly to include a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder, and, subject to certain exceptions, an "interested stockholder" is a person who, together with his or her affiliates and associates, owns (or within three years prior, did own) 15% or more of the corporation's voting stock.

Classified Board of Directors; Appointment of Directors to Fill Vacancies; Removal of Directors for Cause. Our amended and restated certificate of incorporation provides that our board of directors will be divided into three classes as nearly equal in number as possible. Each year the stockholders will elect the members of one of the three classes to a three-year term of office. All directors elected to our classified board of directors will serve until the election and qualification of their respective successors or their earlier resignation or removal. The board of directors is authorized to create new directorships and to fill any positions so created and is permitted to specify the class to which any new position is assigned. The person filling any of these positions would serve for the term applicable to that class. The board of directors (or its remaining members, even if less than a quorum) is also empowered to fill vacancies on the board of directors occurring for any reason for the remainder of the term of the class of directors in which the vacancy occurred. Members of the board of directors may only be removed for cause and only by the affirmative vote of holders of at least 75% of our outstanding voting stock. These provisions are likely to increase the time required for stockholders to change the composition of the board of directors. For example, in general, at least two annual meetings will be necessary for stockholders to effect a change in a majority of the members of the board of directors.

Authorization of Blank Check Preferred Stock. Our amended and restated certificate of incorporation provides that, upon completion of this offering, our board of directors will be authorized to issue, without stockholder approval, blank check preferred stock. Blank check preferred stock can operate as a defensive measure known as a "poison pill" by diluting the stock ownership of a potential hostile acquirer to prevent an acquisition that is not approved by our board of directors.

Advance Notice Provisions for Stockholder Proposals and Stockholder Nominations of Directors. Our amended and restated bylaws provide that, for nominations to the board of directors or for other business to be properly brought by a stockholder before a meeting of stockholders, the stockholder must first have given timely notice of the proposal in writing to our Secretary. For an annual meeting, a stockholder's notice generally must be delivered not less than 45 days nor more than 75 days prior to the anniversary of the mailing date of the proxy statement for the previous year's annual meeting. For a special meeting, the notice must generally be delivered no less than 60 days nor more than 90 days prior to the special meeting or ten days following the day on which public announcement of the meeting is first made. Detailed requirements as to the form of the notice and information required in the notice are specified in our amended and restated bylaws. If it is determined that business was not properly brought before a meeting in accordance with our bylaw provisions, this business will not be conducted at the meeting.

Special Meetings of Stockholders. Special meetings of the stockholders may be called only by our board of directors pursuant to a resolution adopted by a majority of the total number of directors.

No Stockholder Action by Written Consent. Our amended and restated certificate of incorporation does not permit our stockholders to act by written consent. As a result, any action to be effected by our stockholders must be effected at a duly called annual or special meeting of the stockholders.

Super-Majority Stockholder Vote required for Certain Actions. The Delaware General Corporation Law provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless the corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our amended and restated certificate of incorporation requires the affirmative vote of the holders of at least 75% of our outstanding voting stock to amend or repeal any of the provisions discussed in this section of this prospectus entitled "Effect of Anti-Takeover Provisions of Our Amended and Restated Certificate of Incorporation, Our Amended and Restated

Bylaws and Delaware Law" or to reduce the number of authorized shares of common stock or preferred stock. This 75% stockholder vote would be in addition to any separate class vote that might in the future be required pursuant to the terms of any preferred stock that might then be outstanding. A 75% vote is also required for any amendment to, or repeal of, our amended and restated bylaws by the stockholders. Our amended and restated bylaws may be amended or repealed by a simple majority vote of the board of directors.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company. The transfer agent and the registrar's address is 59 Maiden Lane, New York, New York 10038.

Listing

At the present time, there is no established trading market for our common stock. We intend to apply to list our common stock on The NASDAQ Global Market under the symbol .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock. Future sales of substantial amounts of our common stock in the public market, or the anticipation of such sales, could adversely affect prevailing market prices prevailing from time to time. Furthermore, because only a limited number of shares will be available for sale shortly after this offering due to existing contractual and legal restrictions on resale as described below, there may be sales of substantial amounts of our common stock in the public market after the restrictions lapse. This may adversely affect the prevailing market price and our ability to raise equity capital in the future.

Upon completion of this offering, we will have shares of common stock outstanding, assuming the conversion of all outstanding shares of convertible preferred stock, no exercise of the underwriters' option to purchase additional shares and no exercise of any options and warrants outstanding as of June 30, 2013. Of these shares, all of the shares sold in this offering will be freely transferable without restriction or registration under the Securities Act, except for any shares purchased by one of our existing "affiliates," as that term is defined in Rule 144 under the Securities Act. The remaining shares of common stock are "restricted shares" as defined in Rule 144. Restricted shares may be sold in the public market only if registered or if they qualify for an exemption from registration under Rules 144 or 701 of the Securities Act, as described below. Substantially all of these restricted shares will be subject to the 180-day lock-up period described below. Immediately after the 180-day lock-up period, shares will be freely tradable under Rule 144 or Rule 701(g)(3) under the Securities Act and shares will be eligible for resale under Rule 144 or Rule 701(g)(3), subject to volume limitations. shares will be freely tradable or eligible for resale at various times after the 180-day lock-up period under Rule 144 or Rule 701(g)(3), some of which are subject to volume limitations. In addition, upon completion of this offering, a holder of warrants to acquire shares of our common stock will be able to net exercise such shares by surrendering a portion of that holder's warrants as payment of the exercise price rather than paying the exercise price in cash. As of June 30, 2013, warrants to acquire approximately shares of our common stock would be eligible to rely upon Rule 144 if they are net exercised, subject to the lock-up agreements. The lock-up agreements may be extended or shortened in certain circumstances. Please see the section below entitled "—Lock-up Agreements" for further information.

Rule 144

In general, under Rule 144 as currently in effect, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person, or persons whose shares are aggregated, who owns shares that were purchased from us, or any affiliate, at least six months previously, is entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- 1% of our then-outstanding shares of common stock, which will equal approximately shares immediately after this offering; or
- the average weekly trading volume of our common stock on The NASDAQ Global Market during the four calendar weeks preceding the filing of a notice of the sale on Form 144.

Sales under Rule 144 are also subject to manner of sale provisions, notice requirements and the availability of current public information about us. Rule 144 also provides that affiliates that sell our common stock that are not restricted securities must still comply with certain other restrictions of that rule on their manner of sale of our shares, other than the holding period requirement. Additionally, under Rule 144 as currently in effect, a person who is not deemed to have been one of our affiliates at any time during the 90 days preceding a sale, and who owns shares within the definition of "restricted securities" under Rule 144 that were purchased from us, or any affiliate, at least one year previously, would be entitled to sell shares under Rule 144 without regard to the volume limitations, manner of sale provisions, public information requirements or notice requirements described above.

We are unable to estimate the number of shares that will be sold under Rule 144 since this will depend on the market price for our common stock, the personal circumstances of the stockholder and other factors.

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Rule 701

In general, under Rule 701 as currently in effect, any of our employees, directors, officers, consultants or advisors who purchased shares from us in connection with a qualified compensatory stock or option plan or other written agreement before the effective date of this offering is eligible to resell such shares 90 days after the effective date of this offering in reliance on Rule 144. Securities issued in reliance on Rule 701 are restricted securities and, subject to the contractual restrictions described above, beginning 90 days after the date of this prospectus, may be sold by persons other than "affiliates," as defined in Rule 144, subject only to the manner of sale provisions of Rule 144 and by "affiliates" under Rule 144 without compliance with its one year minimum holding requirement.

Registration Rights

The holders of shares of common stock, assuming the conversion of our convertible preferred stock, and holders of shares of common stock, assuming the exercise of preferred stock warrants and further assuming the conversion of such shares of convertible preferred stock, have entered into an agreement with us that provides certain registration rights to these holders and certain future transferees of their securities. Registration of these shares under the Securities Act would result in these shares becoming freely tradable without restriction under the Securities Act immediately upon the effectiveness of the registration, except for shares held by affiliates, subject to the lock-up agreements described under "—Lock-up Agreements." See "Description of Capital Stock—Registration Rights."

Warrants

As of June 30, 2013, we had the following outstanding warrants to purchase a total of 2,344,731 shares of our preferred stock and a total of 9,721,928 shares of our common stock:

- warrants to purchase in the aggregate 1,203,750 shares of Series C convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 1,408,387 shares of our common stock at an exercise price of $2.20 per share, terminating in February 2018;
- warrants to purchase in the aggregate 253,290 shares of Series D convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 316,612 shares of common stock at an exercise price of $3.30 per share, terminating in April 2014;
- warrants to purchase in the aggregate 617,691 shares of Series E convertible preferred stock, which upon completion of this offering, will be converted to a warrant to purchase in the aggregate 685,637 shares of common stock at an exercise price of $2.20 per share, terminating between March and September 2015;
- warrants to purchase in the aggregate 270,000 shares of Series F convertible preferred stock which, upon completion of this offering, will be converted to a warrant to purchase in the aggregate 280,800 shares of common stock at an exercise price of $2.00 per share, terminating in December 2022;
- warrants to purchase in the aggregate 568,678 shares of common stock at an exercise price of $3.30 per share, issued in June and August 2008, and terminating seven years from the date of issuance;
- a warrant to purchase 75,000 shares of common stock at an exercise price of $1.75 per share, issued in February 2010 and terminating on February 17, 2017;
- warrants to purchase in the aggregate 7,443,750 shares of common stock at an exercise price of $0.68 per share, originally issued between March and May 2011, and terminating seven years from the date of issuance;
- warrants to purchase in the aggregate 1,483,500 shares of common stock at an exercise price of $2.20 per share, issued on May 9, 2011, and terminating five years from the date of issuance;
- warrants to purchase in the aggregate 126,000 shares of common stock at an exercise price of $2.00 per share, issued between April 2011 and March 2012, and terminating three years from the date of issuance; and
- a warrant to purchase 25,000 shares of common stock at an exercise price of $2.00, issued on March 17, 2011.

shares of common stock and shares of preferred stock issuable pursuant to these warrants are subject to the lock-up agreements described under "—Lock-up Agreements."

Stock Options

As of June 30, 2013, options to purchase a total of 3,958,485 shares of common stock were outstanding and exercisable. All of the shares subject to options were issued pursuant to the 2003 Plan and substantially all are subject to lock-up agreements. As of June 30, 2013, an additional 6,749,352 shares of common stock were available for future option grants under the 2012 Plan.

Upon completion of this offering, we intend to file a registration statement on Form S-8 under the Securities Act covering all shares of common stock subject to outstanding options or issuable pursuant to the 2003 Plan and the 2012 Plan. Subject to Rule 144 volume limitations applicable to affiliates, shares registered under any registration statements will be available for sale in the open market, except to the extent that the shares are subject to vesting restrictions with us or the contractual restrictions described below.

Restricted Stock Units

As of June 30, 2013, there were a total of 3,401,950 shares of common stock issuable upon the vesting of outstanding RSUs issued under the 2012 Plan.

All RSUs issued prior to the completion of this offering will be eligible to be sold under Rule 701 or Rule 144.

Lock-up Agreements

We, all of our officers, directors and substantially all of our stockholders have agreed, subject to limited exceptions, not to offer, pledge, sell, contract to sell, hypothecate, establish an open "put equivalent position" within the meaning of Rule 16a-1(h) of the Exchange Act, grant any option or purchase any option or contract to sell, sell any option or contract to purchase, lend or otherwise encumber, dispose of or transfer, or grant any rights with respect to directly or indirectly any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock, or enter into any transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock held prior to the offering during the period beginning on the date of this prospectus and ending 180 days thereafter, whether any such transaction is to be settled by delivery of shares of our common stock or such other securities, cash or otherwise, or publicly disclose the intention to may any such offer, sale, pledge or disposition of shares of our common stock without the prior written consent of Stifel, Nicolaus & Company, Incorporated. In addition, such persons have agreed that without the prior written consent of Stifel, Nicolaus & Company, Incorporated, such persons will not make any demand for or exercise any right with respect to the registration of any shares of our common stock or for any security convertible into or exercisable or exchangeable for common stock.

Stifel, Nicolaus & Company, Incorporated may in its sole discretion choose to release any or all of these shares from these restrictions prior to the expiration of the 180-day period. The lock-up restrictions will not apply to transactions relating to common stock acquired in open market transactions after the closing of this offering provided that no filing under Section 13 or Section 16(a) of the Exchange Act is required or will be voluntarily made in connection with subsequent sales of common stock or other securities acquired in such market transactions. The lock-up restrictions also will not apply to certain transfers not involving a disposition for value, provided that the recipient agrees to be bound by these lock-up restrictions and provided that such transfers are not required to be reported in any public report or filing with the SEC, or otherwise, during the lock-up period.

MATERIAL U.S. FEDERAL TAX CONSEQUENCES FOR NON-U.S. HOLDERS OF COMMON STOCK

The following is a general discussion of material U.S. federal income and estate tax considerations relating to the purchase, ownership and disposition of shares of our common stock by a non-U.S. holder. For purposes of this discussion, the term "non-U.S. holder" means a beneficial owner of shares of our common stock that is, for U.S. federal income tax purposes, an individual, corporation, estate or trust other than:

- an individual who is a citizen or resident of the United States;
- a corporation, or other organization treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or of any political subdivision of the United States;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if (1) a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have authority to control all substantial decisions of the trust or (2) if the trust has a valid election to be treated as a U.S. person under applicable U.S. Treasury Regulations.

A modified definition of non-U.S. holder applies for U.S. federal estate tax purposes (as discussed below).

This discussion is based on current provisions of the Code, existing and proposed U.S. Treasury Regulations promulgated or proposed thereunder and current administrative and judicial interpretations thereof, all as in effect as of the date of this prospectus and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change could alter the tax consequences to non-U.S. holders described in this prospectus. In addition, the Internal Revenue Service, or the IRS, could challenge one or more of the tax consequences described in this prospectus.

We assume in this discussion that each non-U.S. holder holds shares of our common stock as a capital asset (generally, property held for investment). This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of state, local or non-U.S. taxes, or, except as explicitly addressed herein, U.S. federal taxes other than income and estate taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax considerations that may be applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- controlled foreign corporations;
- passive foreign investment companies;
- corporations that accumulate earnings to avoid U.S. federal income tax;
- certain U.S. expatriates;
- persons subject to the alternative minimum tax;
- persons in special situations;
- persons that have a "functional currency" other than the U.S. dollar;
- persons that acquire our common stock as compensation for services; and
- owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment.

In addition, this discussion does not address the tax treatment of partnerships or persons who hold their common stock through partnerships or other entities that are transparent for U.S. federal income tax purposes. A partner in a partnership or other transparent entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of the ownership and disposition of shares of our common stock through a partnership or other transparent entity, as applicable.

Prospective investors should consult their own tax advisors regarding the U.S. federal, state, local and non-U.S. income and other tax considerations of acquiring, holding and disposing of shares of our common stock.

Dividends

If we pay distributions of cash or property with respect to shares of our common stock, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles and will be subject to withholding as described in the paragraphs below. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in its shares of our common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading "—Gain on Sale, Exchange or Other Taxable Disposition of Common Stock." Any distribution described in this paragraph would also be subject to the discussion below in "—Foreign Account Tax Compliance Act."

Subject to the exceptions described below, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence. If we determine, at a time reasonably close to the date of payment of a distribution on shares of our common stock, that the distribution will not constitute a dividend because we do not anticipate having current or accumulated earnings and profits, we intend not to withhold any U.S. federal income tax on the distribution as permitted by U.S. Treasury Regulations.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States, and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. To obtain this exemption, a non-US holder must provide us with a properly executed original and unexpired IRS Form W-8ECI properly certifying such exemption. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to U.S. persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is treated as a corporation for U.S. federal income tax purposes may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of shares of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN (or successor form) and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on Sale, Exchange or Other Taxable Disposition of Common Stock

Subject to the discussion below in "—Foreign Account Tax Compliance Act," a non-U.S. holder generally will not be subject to U.S. federal income tax on gain recognized on a sale, exchange or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States, and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment maintained by the non-U.S. holder in the United States; in these cases, the non-U.S. holder will be taxed on a net income basis at the regular graduated rates and in the manner applicable to U.S. persons, and, if the non-U.S. holder is a non-U.S. corporation, an additional branch profits tax at a rate of 30%, or a lower rate as may be specified by an applicable income tax treaty, may also apply;

- the non-U.S. holder is an individual present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the amount by which such non-U.S. holder's capital gains allocable to U.S. sources exceed capital losses allocable to U.S. sources during the taxable year of the disposition; or
- we are or were a "U.S. real property holding corporation" during the shorter of the five-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a "U.S. real property holding corporation" if the fair market value of its "U.S. real property interests" (within the meaning of the Code) equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. We believe that we are not currently, and we do not anticipate becoming, a "U.S. real property holding corporation" for U.S. federal income tax purposes.

Information Reporting and Backup Withholding Tax

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on shares of our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. These information reporting requirements apply even if withholding is not required. Subject to the discussion below under "—Foreign Account Tax Compliance Act," non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) or otherwise subject to an exemption in order to avoid backup withholding at the applicable rate (currently 28%) with respect to dividends on shares of our common stock. Generally, a holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN or otherwise meets documentary evidence requirements for establishing that it is a non-U.S. holder, or otherwise establishes an exemption. Dividends paid to non-U.S. holders subject to the U.S. federal withholding tax, as described above in "—Dividends," generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding generally will apply to the payment of the proceeds of a disposition of shares of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or non-U.S., unless the holder certifies that it is a non-U.S. person (as defined in the Code) and satisfies certain other requirements, or otherwise establishes an exemption. For information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker and dispositions otherwise effected through a non-U.S. office generally will not be subject to information reporting. Generally, backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected through a non-U.S. office of a U.S. broker or non-U.S. office of a non-U.S. broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

Foreign Account Tax Compliance Act

Legislation enacted in March 2010, commonly referred to as FATCA, generally will impose a U.S. federal withholding tax of 30% on payments to certain non-U.S. entities (including certain intermediaries), including dividends on and the gross proceeds from a sale or other disposition of our common stock, unless such persons comply with a complicated U.S. information reporting, due diligence, disclosure and certification regime. This new regime and its requirements are different from, and in addition to, the certification requirements described elsewhere in this discussion. The FATCA withholding rules apply to certain payments, including dividend payments on our common stock, if any, paid after December 31, 2013, and to payments of gross proceeds from

the sale or other dispositions of our common stock paid after December 31, 2016. Although administrative guidance and proposed regulations have been issued, regulations implementing the new FATCA regime have not been finalized and the exact scope of these rules remains unclear and potentially subject to material changes. Prospective investors should consult their own tax advisors regarding the possible impact of these rules on their investment in our common stock, including any investment in our common stock made through another entity.

Federal Estate Tax

Common stock owned or treated as owned by an individual who is a non-U.S. holder (as specially defined for U.S. federal estate tax purposes) at the time of such non-U.S. holder's death will be included in the individual's gross estate for U.S. federal estate tax purposes and, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax or other treaty provides otherwise. Generally, amounts included in the taxable estate of decedents are subject to U.S. federal estate tax at a maximum rate of 40%.

The preceding discussion of material U.S. federal tax considerations is for general information only. It is not tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local and non-U.S. tax consequences of purchasing, holding and disposing of shares of our common stock, including the consequences of any proposed changes in applicable laws.

UNDERWRITING

Stifel, Nicolaus & Company, Incorporated is acting as representative of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement dated the date of this prospectus, each of the underwriters named below has severally agreed to purchase from us the aggregate number of shares of common stock set forth opposite their respective names below:

Underwriters	Number of Shares
Stifel, Nicolaus & Company, Incorporated	
JMP Securities LLC	
Total	

The underwriting agreement provides that the obligations of the several underwriters are subject to various conditions, including approval of legal matters by counsel. The nature of the underwriters' obligations commits them to purchase and pay for all of the shares of common stock listed above if any are purchased. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

The underwriters expect to deliver the shares of common stock to purchasers on or about   , 2013.

Option to Purchase Additional Shares

We have granted a 30-day option to the underwriters to purchase up to a total of   additional shares of our common stock from us at the initial public offering price, less the underwriting discount payable by us, as set forth on the cover page of this prospectus. If the underwriters exercise this option in whole or in part, then each of the underwriters will be separately committed, subject to the conditions described in the underwriting agreement, to purchase the additional shares of our common stock in proportion to their respective commitments set forth in the table above.

Determination of Offering Price

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representative. In addition to currently prevailing general conditions in the equity securities markets, including current market valuations of publicly traded companies considered comparable to our company, the factors to be considered in determining the initial public offering price will include our results of operations, our current financial condition, our future prospects, our management, our markets, the economic conditions in and future prospects for the industry in which we compete and other factors we deem relevant. We cannot assure you that an active or orderly trading market will develop for our common stock or that our common stock will trade in the public markets subsequent to this offering at or above the initial public offering price.

Commissions and Discounts

The underwriters propose to offer the shares of common stock directly to the public at the initial public offering price set forth on the cover page of this prospectus, and at this price less a concession not in excess of $ per share of common stock to other dealers specified in a master agreement among underwriters who are members of the Financial Industry Regulatory Authority, Inc. The underwriters may allow, and the other dealers specified may reallow, concessions not in excess of $ per share of common stock to these other dealers. After this offering, the offering price, concessions, and other selling terms may be changed by the underwriters. Our common stock is offered subject to receipt and acceptance by the underwriters and to the other conditions, including the right to reject orders in whole or in part.

The following table summarizes the compensation to be paid to the underwriters by us and the proceeds, before expenses, payable to us:

	Per Share	Total	
		Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares
Public offering price			
Underwriting discount			
Proceeds, before expenses, to us			

We estimate that the total expenses of this offering, excluding underwriting discounts and commissions, will be $ million, all of which will be paid by us.

Indemnification of Underwriters

We will indemnify the underwriters against some civil liabilities, including liabilities under the Securities Act and liabilities arising from breaches of our representations and warranties contained in the underwriting agreement. If we are unable to provide this indemnification, we will contribute to payments the underwriters may be required to make in respect of those liabilities.

No Sales of Similar Securities

The underwriters will require all of our directors and officers and substantially all of our stockholders to agree not to offer, sell, agree to sell, directly or indirectly, or otherwise dispose of any shares of common stock or any securities convertible into or exchangeable for shares of common stock without the prior written consent of Stifel, Nicolaus & Company, Incorporated for a period of 180 days after the date of this prospectus, subject to specified limited exceptions. Stifel, Nicolaus & Company, Incorporated in its sole discretion may release any of the securities subject to these agreements at any time, which, in the case of officers and directors, shall be with notice.

We have agreed that for a period of 180 days after the date of this prospectus, we will not, without the prior written consent of Stifel, Nicolaus & Company, Incorporated, offer, sell or otherwise dispose of any shares of common stock, except for the shares of common stock offered in this offering, the shares of common stock issuable upon exercise of outstanding options on the date of this prospectus and other specified limited exceptions.

NASDAQ Global Market Listing

We intend to apply to list our common stock on the NASDAQ Global Market under the symbol “ .”

Short Sales, Stabilizing Transactions, and Penalty Bids

In order to facilitate this offering, persons participating in this offering may engage in transactions that stabilize, maintain, or otherwise affect the price of our common stock during and after this offering. Specifically, the underwriters may engage in the following activities in accordance with the rules of the Securities and Exchange Commission.

Short sales. Short sales involve the sales by the underwriters of a greater number of shares than they are required to purchase in the offering. Covered short sales are short sales made in an amount not greater than the underwriters’ option to purchase additional shares from us in this offering. The underwriters may close out any covered short position by either exercising their option to purchase shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares. Naked short sales are any short sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering.

Stabilizing transactions. The underwriters may make bids for or purchases of the shares for the purpose of pegging, fixing, or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum.

Penalty bids. If the underwriters purchase shares in the open market in a stabilizing transaction or syndicate covering transaction, they may reclaim a selling concession from the underwriters and selling group members who sold those shares as part of this offering. Stabilization and syndicate covering transactions may cause the price of the shares to be higher than it would be in the absence of these transactions. The imposition of a penalty bid might also have an effect on the price of the shares if it discourages presales of the shares.

The transactions above may occur on the NASDAQ Global Market or otherwise. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. If these transactions are commenced, they may be discontinued without notice at any time.

Discretionary Sales

The underwriters have informed us that they do not expect to confirm sales of common stock offered by this prospectus to accounts over which they exercise discretionary authority without obtaining the specific approval of the account holder.

Electronic Distribution

A prospectus in electronic format may be made available on the internet sites or through other online services maintained by one or more of the underwriters participating in this offering, or by their affiliates. Other than the prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of the prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter and should not be relied upon by investors.

Relationships

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their affiliates have in the past provided, and may in the future from time to time provide, investment banking and other financing and banking services to us, for which they have in the past received, and may in the future receive, customary fees and reimbursement for their expenses. In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments including bank loans for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments.

European Economic Area

In relation to each member state of the European Economic Area that has implemented the Prospectus Directive (each, a relevant member state), with effect from and including the date on which the Prospectus Directive is implemented in that relevant member state (the relevant implementation date), an offer of securities described in this prospectus may not be made to the public in that relevant member state other than:

- to any legal entity that is authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- to any legal entity that has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43,000,000 and (3) an annual net turnover of more than €50,000,000, as shown in its last annual or consolidated accounts;
- to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the representative; or
- in any other circumstances that do not require the publication of a prospectus pursuant to Article 3 of the Prospectus Directive,

provided that no such offer of securities shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive. For purposes of this provision, the expression an "offer of securities to the public" in any relevant member state means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe the securities, as the expression may be varied in that member state by any measure implementing the Prospectus Directive in that member state, and the expression "Prospectus Directive" means Directive 2003/71/EC and includes any relevant implementing measure in each relevant member state.

We have not authorized and do not authorize the making of any offer of securities through any financial intermediary on their behalf, other than offers made by the underwriters with a view to the final placement of the securities as contemplated in this prospectus. Accordingly, no purchaser of the securities, other than the underwriters, is authorized to make any further offer of the securities on behalf of us or the underwriters.

United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive (Qualified Investors) that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the Order) or (ii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as relevant persons). This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

France

This prospectus has not been prepared in the context of a public offering of financial securities in France within the meaning of Article L.411-1 of the French Code Monétaire et Financier and Title I of Book II of the Reglement Général of the Autorité des marchés financiers (the AMF) and therefore has not been and will not be filed with the AMF for prior approval or submitted for clearance to the AMF. Consequently, the shares of our common stock may not be, directly or indirectly, offered or sold to the public in France and offers and sales of the shares of our common stock may only be made in France to qualified investors (investisseurs qualifiés) acting for their own account, as defined in and in accordance with Articles L.411-2 and D.411-1 to D.411-4, D.734-1, D.744-1, D.754-1 and D.764-1 of the French Code Monétaire et Financier. Neither this prospectus nor any other offering material may be released, issued or distributed to the public in France or used in connection with any offer for subscription on sale of the shares of our common stock to the public in France. The subsequent direct or indirect retransfer of the shares of our common stock to the public in France may only be made in compliance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French Code Monétaire et Financier.

Notice to Residents of Germany

Each person who is in possession of this prospectus is aware of the fact that no German securities prospectus (wertpapierprospekt) within the meaning of the securities prospectus act (wertpapier-prospektgesetz, the act) of the federal republic of Germany has been or will be published with respect to the shares of our common stock. In particular, each underwriter has represented that it has not engaged and has agreed that it will not engage in a public offering in the federal republic of Germany (ôffertliches angebot) within the meaning of the act with respect to any of the shares of our common stock otherwise than in accordance with the act and all other applicable legal and regulatory requirements.

Notice to Residents of Switzerland

The securities which are the subject of the offering contemplated by this prospectus may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the

disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. None of this prospectus or any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

None of this prospectus or any other offering or marketing material relating to the offering, us or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority, or FINMA and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of the securities.

Notice to Residents of the Netherlands

The offering of the shares of our common stock is not a public offering in The Netherlands. The shares of our common stock may not be offered or sold to individuals or legal entities in The Netherlands unless (i) a prospectus relating to the offer is available to the public, which has been approved by the Dutch Authority for the Financial Markets (Autoriteit Financiële Markten) or by the competent supervisory authority of another state that is a member of the European Union or party to the Agreement on the European Economic Area, as amended or (ii) an exception or exemption applies to the offer pursuant to Article 5:3 of The Netherlands Financial Supervision Act (Wet op het financieel toezicht) or Article 53 paragraph 2 or 3 of the Exemption Regulation of the Financial Supervision Act, for instance due to the offer targeting exclusively “qualified investors” (gekwalificeerde beleggers) within the meaning of Article 1:1 of The Netherlands Financial Supervision Act.

Notice to Residents of Japan

The underwriters will not offer or sell any of the shares of our common stock directly or indirectly in Japan or to, or for the benefit of, any Japanese person or to others, for re-offering or re-sale directly or indirectly in Japan or to any Japanese person, except in each case pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law of Japan and any other applicable laws and regulations of Japan. For purposes of this paragraph, “Japanese person” means any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Residents of Hong Kong

The underwriters and each of their affiliates have not (1) offered or sold, and will not offer or sell, in Hong Kong, by means of any document, any shares of our common stock other than (a) to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance or (b) in other circumstances which do not result in the document being a “prospectus” as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance; and (2) issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere any advertisement, invitation or document relating to the shares of our common stock which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the shares of our common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the Securities and Futures Ordinance and any rules made under that Ordinance. The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice.

Notice to Residents of Singapore

This document has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this document and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of shares of our common stock may not be circulated or distributed, nor may shares of our common stock be offered or sold, or be made the subject of an invitation for subscription or purchase,

whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the Securities and Futures Act), (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the Securities and Futures Act or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the Securities and Futures Act.

Where shares of our common stock are subscribed or purchased under Section 275 by a relevant person, which is:

(a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor,

shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for six months after that corporation or that trust has acquired the shares of our common stock under Section 275 except:

(1) to an institutional investor or to a relevant person, or to any person pursuant to an offer that is made on terms that such rights or interest are acquired at a consideration of not less than $200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets;

(2) where no consideration is given for the transfer; or

(3) by operation of law.

LEGAL MATTERS

The validity of the issuance of the common stock offered by us in this offering will be passed upon for us by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts. Certain legal matters relating to this offering will be passed upon for the underwriters by Cooley LLP, New York, New York.

EXPERTS

The financial statements of Amedica Corporation at December 31, 2011 and 2012, and for each of the two years in the period ended December 31, 2012, appearing in this Prospectus and Registration Statement have been audited by Ernst & Young LLP, independent registered public accounting firm, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the financial statements) appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the common stock offered by this prospectus. This prospectus, which is part of the registration statement, omits certain information, exhibits, schedules and undertakings set forth in the registration statement. For further information pertaining to us and our common stock, reference is made to the registration statement and the exhibits and schedules to the registration statement. Statements contained in this prospectus as to the contents or provisions of any documents referred to in this prospectus are not necessarily complete, and in each instance where a copy of the document has been filed as an exhibit to the registration statement, reference is made to the exhibit for a more complete description of the matters involved.

You may read and copy all or any portion of the registration statement without charge at the public reference room of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Copies of the registration statement may be obtained from the SEC at prescribed rates from the public reference room of the SEC at such address. You may obtain information regarding the operation of the public reference room by calling 1-800-SEC-0330. In addition, registration statements and certain other filings made with the SEC electronically are publicly available through the SEC's web site at *http://www.sec.gov*. The registration statement, including all exhibits and amendments to the registration statement, has been filed electronically with the SEC.

Upon completion of this offering, we will become subject to the information and periodic reporting requirements of the Exchange Act and, accordingly, will file annual reports containing financial statements audited by an independent public accounting firm, quarterly reports containing unaudited financial data, current reports, proxy statements and other information with the SEC. You will be able to inspect and copy such periodic reports, proxy statements and other information at the SEC's public reference room, and the web site of the SEC referred to above. We will also maintain a web site at *http://www.amedica.com*, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our web site is not part of this prospectus.

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AMEDICA CORPORATION

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Amedica Corporation

We have audited the accompanying consolidated balance sheets of Amedica Corporation as of December 31, 2011 and 2012, and the related consolidated statements of comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows for the years then ended in the period ended December 31, 2012. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Amedica Corporation at December 31, 2012 and 2011, and the consolidated results of its operations and its cash flows for the years then ended in the period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has recurring losses from operations and has a net capital deficiency that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Ernst & Young LLP

Salt Lake City, Utah
September 23, 2013

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AMEDICA CORPORATION

Consolidated Balance Sheets

	December 31, 2011	December 31, 2012	June 30, 2013	Pro Forma June 30, 2013
			(unaudited)	
Assets				
Current assets:				
Cash and cash equivalents	$ 3,330,932	$ 2,741,300	$ 1,134,738	$
Restricted cash	—	260,459	54,284	
Marketable securities	7,808,644	2,680,441	1,618,960	
Trade accounts receivable, net of allowance of $284,272 and $58,346 and $215,487, respectively	3,446,673	4,015,721	2,891,270	
Prepaid expenses and other current assets	1,702,281	519,238	500,361	
Inventories	11,397,306	8,825,894	8,625,010	
Total current assets	27,685,836	19,043,053	14,824,623	
Property and equipment, net	4,979,194	3,022,532	2,910,700	
Indefinite lived intangible assets	2,249,000	350,000	350,000	
Amortizable intangible assets	20,105,778	4,839,000	4,588,707	
Goodwill	6,162,565	6,162,565	6,162,565	
Other long-term assets	37,794	37,794	35,000	
Total assets	$ 61,220,167	$ 33,454,944	$ 28,871,595	$
Liabilities and stockholders' deficit				
Current liabilities:				
Accounts payable	$ 1,389,230	$ 2,142,411	$ 1,514,643	$
Accrued liabilities	1,872,597	1,599,313	2,041,688	
Deferred rent	19,756	7,084	18,423	
Deferred revenue	4,720	—	7,430	
Line of credit	2,000,000	2,572,929	1,270,912	
Contingent consideration, current	6,800,010	—	—	
Current portion of long-term debt	2,857,634	17,892,759	17,908,659	
Total current liabilities	14,943,947	24,214,496	22,761,755	
Deferred rent	571,975	605,931	591,626	
Deferred tax liability	860,000	134,000	134,000	
Preferred stock warrant liability	328,949	525,479	495,789	
Common stock warrant liability	2,164,935	2,783,191	3,077,429	
Long-term debt	15,500,000	—	—	
Convertible debt	23,628,289	—	—	
Commitments and contingencies				
Convertible preferred stock, $0.01 par value:				
Authorized shares—100,000,000 at December 31, 2011 and 2012 and June 30, 2013 (unaudited); issued and outstanding shares—57,882,889 at December 31, 2011 and 76,170,394 shares at December 31, 2012 and June 30, 2013 (unaudited); liquidation preference—$104,000,000 at December 31, 2011 and $140,000,000 at December 31, 2012 and June 30, 2013 (unaudited); no shares issued and outstanding, pro forma (unaudited)	117,501,194	153,474,317	153,474,317	—
Stockholders' deficit:				
Common stock, $0.01 par value:				
Authorized shares—150,000,000 at December 31, 2011 and 2012 and June 30, 2013 (unaudited); issued and outstanding shares—8,974,348 at December 31, 2011 and 8,985,948 shares at December 31, 2012 and 14,299,125 shares at June 30, 2013 (unaudited); shares issued and outstanding, pro forma (unaudited)	89,743	89,859	142,991	904,695
Additional paid-in capital / (capital deficiency) pro forma (unaudited)	(17,743,737)	(16,737,349)	(13,799,935)	138,912,678
Accumulated other comprehensive income (loss)	(23,033)	1,784	(389)	
Accumulated deficit	(96,602,095)	(131,636,764)	(138,005,988)	
Total stockholders' deficit	(114,279,122)	(148,282,470)	(151,663,321)	
Total liabilities, convertible preferred stock and stockholders' deficit	$ 61,220,167	$ 33,454,944	$ 28,871,595	$

See accompanying notes.

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AMEDICA CORPORATION

Consolidated Statements of Comprehensive Loss

	Years Ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
			(unaudited)	
Product revenue	$ 20,261,455	$ 23,065,272	$11,421,634	$11,306,493
Cost of revenue				
Product revenue	4,088,166	5,422,805	2,202,642	3,008,068
Write-down of excess and obsolete inventory	—	1,042,909	750,326	267,121
Total cost of revenue	4,088,166	6,465,714	2,952,968	3,275,189
Gross profit	16,173,289	16,599,558	8,468,666	8,031,304
Operating expenses				
Research and development	7,789,216	6,013,400	3,128,238	2,201,316
General and administrative	7,263,045	7,312,997	3,559,095	3,071,653
Sales and marketing	17,145,515	17,094,177	7,839,390	8,172,064
Impairment loss on intangible assets	—	15,280,861	—	—
Change in fair value of contingent consideration	4,831,609	—	—	—
Total operating expenses	37,029,385	45,701,435	14,526,723	13,445,033
Loss from operations	(20,856,096)	(29,101,877)	(6,058,057)	(5,413,729)
Other income (expense)				
Interest income	71,775	57,444	34,762	8,657
Interest expense	(3,455,811)	(5,610,926)	(2,522,191)	(892,350)
Loss on extinguishment of debt	—	(250,678)	—	—
Issuance, modifications and changes in fair value of preferred stock warrants	307,890	(85,228)	(430,803)	29,690
Issuance, modifications and changes in fair value of common stock warrants	172,381	(618,256)	942,191	(294,238)
Other income / (expense)	8,691	(151,148)	–	192,746
Total other expense	(2,895,074)	(6,658,792)	(1,976,041)	(955,495)
Net loss before income taxes	(23,751,170)	(35,760,669)	(8,034,098)	(6,369,224)
Income tax benefit	—	726,000	—	—
Net loss	(23,751,170)	(35,034,669)	(8,034,098)	(6,369,224)
Other comprehensive loss, net of tax:				
Unrealized gain / (loss) on marketable securities	(23,033)	24,817	28,236	(2,173)
Total comprehensive loss	$(23,774,203)	$(35,009,852)	$ (8,005,862)	$ (6,371,397)
Net loss per share attributable to common stockholders:				
Basic and diluted	$ (2.65)	$ (3.90)	$ (0.89)	$ (0.53)
Shares used to compute net loss per share attributable to common stockholders:				
Basic and diluted	8,963,053	8,981,199	8,978,535	12,097,276
Pro forma net loss per share attributable to common stockholders (unaudited):				
Basic and diluted		$		$
Weighted average shares used to compute pro forma net loss per share attributable to common stockholders (unaudited):				
Basic and diluted				

See accompanying notes.

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AMEDICA CORPORATION

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital/ (Capital Deficiency)	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
Balance at December 31, 2010	57,582,869	$117,337,084	8,957,160	$ 89,572	$ (18,573,613)	$ —	$ (72,850,925)	$ (91,334,966)
Issuance of Series A convertible preferred stock upon exercise of warrants	48,125	31,763	—	—	—	—	—	—
Issuance of Series A convertible preferred stock upon cashless exercise of warrants	157,248	96,159	—	—	—	—	—	—
Issuance of Series B convertible preferred stock upon cashless exercise of warrants	94,647	36,188	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	17,188	171	3,516	—	—	3,687
Stock-based compensation	—	—	—	—	826,360	—	—	826,360
Unrealized loss on marketable securities	—	—	—	—	—	(23,033)	—	(23,033)
Net loss	—	—	—	—	—	—	(23,751,170)	(23,751,170)
Balance at December 31, 2011	57,882,889	117,501,194	8,974,348	89,743	(17,743,737)	(23,033)	(96,602,095)	(114,279,122)
Issuance of Series C convertible preferred stock as US Spine settlement shares	2,557,562	5,115,124	—	—	—	—	—	—
Issuance of Series E convertible preferred stock as US Spine settlement shares	842,443	1,684,886	—	—	—	—	—	—
Issuance of Series F convertible preferred stock upon conversion of convertible debt, net of issuance costs	14,887,500	29,173,113	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	11,600	116	5,134	—	—	5,250
Stock-based compensation	—	—	—	—	1,001,254	—	—	1,001,254
Unrealized gain on marketable securities	—	—	—	—	—	24,817	—	24,817
Net loss	—	—	—	—	—	—	(35,034,669)	(35,034,669)
Balance at December 31, 2012	76,170,394	153,474,317	8,985,948	89,859	(16,737,349)	1,784	(131,636,764)	(148,282,470)
Issuance of common stock upon exercise of warrants (unaudited)	—	—	4,601,177	46,012	2,832,485	—	—	2,878,497
Issuance of common stock upon cashless exercise of stock options (unaudited)	—	—	712,000	7,120	(7,120)	—	—	—
Stock-based compensation (unaudited)	—	—	—	—	112,049	—	—	112,049
Unrealized loss on marketable securities (unaudited)	—	—	—	—	—	(2,173)	—	(2,173)
Net loss (unaudited)	—	—	—	—	—	—	(6,369,224)	(6,369,224)
Balance at June 30, 2013 (unaudited)	76,170,394	$153,474,317	14,299,125	$142,991	$ (13,799,935)	$ (389)	$(138,005,988)	$(151,663,321)

See accompanying notes.

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AMEDICA CORPORATION

Consolidated Statements of Cash Flows

	Year Ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
			(unaudited)	
Operating activities				
Net loss	$(23,751,170)	$(35,034,669)	$ (8,034,098)	$ (6,369,224)
Adjustments to reconcile net loss to net cash used in operating activities:				
Write-down of intangible assets	—	15,280,861	—	—
Change in fair value of contingent consideration	4,831,609	—	—	—
Depreciation expense	3,823,778	2,378,655	1,280,267	889,527
Amortization of intangible assets	1,884,916	1,884,917	942,459	250,293
Amortization of lease incentive for tenant improvements	19,752	19,752	9,876	9,876
Accretion of interest expense on US Spine-related note payable	290,355	142,366	94,139	—
Accretion of interest expense on new bank debt	—	4,061	—	165,567
Non-cash interest expense on convertible debt	1,193,664	2,511,895	937,186	—
Loss on extinguishment of debt	—	250,678	—	—
Non-cash interest expense on bank debt	—	21,610	—	—
Stock based compensation	826,360	1,001,254	724,802	112,049
Issuances, modifications and changes in fair value of preferred stock warrant liability	(307,890)	85,228	430,803	(29,690)
Issuances, modifications and changes in fair value of common stock warrant liability	(172,381)	618,256	(942,191)	294,238
Loss (gain) on sale of equipment	(8,691)	151,148	—	—
Write-down of excess and obsolete inventory	—	1,042,909	750,326	267,121
Bad debt expense (recovery)	297,144	(27,551)	98,288	180,567
Payments on acquired US Spine liabilities	(356,972)	—	—	—
Changes in operating assets and liabilities:				
Trade accounts receivable	(652,675)	(541,497)	(1,420,115)	943,884
Prepaid expenses and other current assets	205,507	(843,816)	164,264	18,877
Inventories	(2,893,836)	1,528,503	(377,721)	(66,237)
Other long-term assets	(35,000)	—	—	2,794
Accounts payable and accrued liabilities	(85,764)	(221,286)	(211,311)	(337,234)
Deferred rent	48,496	21,284	10,643	(2,965)
Deferred revenue	(64,959)	(4,720)	—	7,430
Net cash used in operating activities	(14,907,757)	(9,730,162)	(5,542,383)	(3,663,127)
Investing activities				
Purchase of property and equipment	(1,361,789)	(592,893)	(358,732)	(787,571)
Lease incentive for tenant improvements	—	—	—	—
(Increase) decrease in restricted cash	—	(260,459)	—	206,175
Purchases of marketable securities	(15,140,518)	(5,081,666)	—	(343,108)
Proceeds from maturities of marketable securities	7,331,874	10,209,869	2,125,382	1,404,589
Net cash provided by (used in) investing activities	(9,170,433)	4,274,851	1,766,650	480,085
Financing activities				
Proceeds from exercise of preferred stock warrants	31,763	—	—	—
Proceeds from exercise of common stock warrants net of commissions	—	—	—	2,878,497
Proceeds from exercise of stock options	3,687	5,250	625	—
Proceeds from line of credit	2,000,000	2,572,929	—	7,090,220
Payments on line of credit	(1,860,000)	(2,000,000)	—	(8,392,237)
Proceeds from issuance of long-term debt	3,000,000	17,888,698	—	—
Issuance of preferred stock warrants	—	111,302	—	—
Payments on bank debt extinguishment	—	(15,500,000)	—	—
Payments on US Spine debtholder note	(3,000,000)	(3,000,000)	—	—
Proceeds from issuance of convertible debt and warrants, net of issuance costs	23,574,183	4,787,500	4,787,500	—
Net cash provided by financing activities	23,749,633	4,865,679	4,788,125	1,576,480
Net increase (decrease) in cash and cash equivalents	(328,557)	(589,632)	1,012,392	(1,606,562)
Cash and cash equivalents at beginning of period	3,659,489	3,330,932	3,330,932	2,741,300
Cash and cash equivalents at end of period	$ 3,330,932	$ 2,741,300	$ 4,343,324	$ 1,134,738
Supplemental cash flow information				
Common stock warrants issued in connection with convertible debt	$ 2,339,044	$ —	$ —	$ —
Cash paid for interest	$ 1,928,689	$ 3,078,519	$ 1,494,630	$ 684,153

See accompanying notes.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

1. Organization and Summary of Significant Accounting Policies

Amedica Corporation ("Amedica" or "the Company") was incorporated in the state of Delaware on December 10, 1996. Amedica is a commercial-stage biomaterial company focused on using its silicon nitride technology platform to develop, manufacture, and commercialize a broad range of medical devices. The Company believes it is the first and only manufacturer to use silicon nitride in medical applications. The Company acquired US Spine, Inc. ("US Spine"), a Delaware spinal products corporation with operations in Florida, on September 20, 2010.

Basis of Presentation and Principles of Consolidation

These consolidated financial statements have been prepared by management in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"), and include all assets and liabilities of the Company and its wholly-owned subsidiary, US Spine. All material intercompany transactions and balances have been eliminated.

Unaudited Pro Forma Stockholders' Equity and Unaudited Pro Forma Loss Per Share

Prior to the completion of the offering contemplated by this prospectus, we expect all of the convertible preferred stock outstanding to convert into shares of common stock at the then applicable conversion rate. Unaudited pro forma convertible preferred stock, common stock and additional paid-in capital on the accompanying consolidated balance sheets assume only the conversion of convertible preferred stock outstanding at June 30, 2013. The unaudited pro forma basic and diluted loss per share calculations assume the conversion of all outstanding shares of convertible preferred stock into common stock using the as-if converted method, as-if such conversion had occurred at the beginning of the period or the issuance date, if later.

Unaudited Interim Financial Information

The accompanying interim balance sheet as of June 30, 2013, the statements of comprehensive loss and cash flows for the six months ended June 30, 2012 and 2013, the statement of convertible preferred stock and stockholders' deficit for the six months ended June 30, 2013 and the interim footnote disclosures are unaudited. These unaudited interim financial statements have been prepared in accordance with U.S. GAAP. In management's opinion, the unaudited interim financial statements have been prepared on the same basis as the audited financial statements and include all adjustments, which include only normal recurring adjustments, necessary for the fair presentation of the Company's financial position as of June 30, 2013 and its results of operations and comprehensive loss and its cash flows for the six months ended June 30, 2012 and 2013. The results for the six months ended June 30, 2013 are not necessarily indicative of the results expected for the full fiscal year or any other interim period.

Liquidity and Capital Resources

For the years ended December 31, 2011 and 2012 and the six months ended June 30, 2012 and 2013, the Company incurred a net loss of $23.8 million, $35.0 million, $8.0 million and $6.4 million, respectively and used cash in operations of $14.9 million, $9.7 million, $5.5 million and $3.7 million, respectively. The Company had an accumulated deficit of $131.6 million as of December 31, 2012 and $138.0 million as of June 30, 2013. With the exception of a small net income for the years ended December 31, 2002 and 1999, the Company has incurred net losses in each year since inception. To date, the Company's operations have been principally financed from proceeds from the issuance of preferred and common stock, convertible debt and bank debt and, to a lesser extent, cash generated from product sales. It is anticipated that the Company will continue to generate operating losses and use cash in operations through 2014.

As discussed further in Note 7, the Company is contractually obligated to repay $18.0 million to a bank beginning in January 2014, over a period of 30 months. In order to finance the continued growth in product sales,

to invest in further product development and to otherwise satisfy obligations as they mature, the Company expects to seek additional financing in the near term through the issuance of common and preferred stock and/or convertible debt. As of December 31, 2012 and June 30, 2013, the Company had approximately $5.7 million and $2.8 million, respectively, in cash and investments. As discussed in Note 13, subsequent to June 30, 2013, the Company received gross proceeds of $9.5 million from the sale of Series F convertible preferred stock. Based on business operating plans for 2013, including the proceeds from the sale of Series F convertible preferred stock and taking into account the required minimum liquidity financial debt covenant discussed in Note 7, the Company expects its existing cash and investments to support its operations through December 2013. Additional funding may not be available to the Company on acceptable terms, or at all. If the Company is unable to access additional funds when needed, it may not be able to continue the development of its silicon nitride interbody spinal fusion products or the Company could be required to delay, scale back or eliminate some or all of its development programs and other operations. Any additional equity financing, if available to the Company, may not be available on favorable terms, will most likely be dilutive to its current stockholders, and debt financing, if available, may involve more restrictive covenants. The Company's ability to access capital when needed is not assured and, if not achieved on a timely basis, will materially harm its business, financial condition and results of operations. These uncertainties create substantial doubt about the Company's ability to continue as a going concern. The Report of Independent Registered Public Accounting Firm at the beginning of these financial statements includes a going concern explanatory paragraph.

The accompanying financial statements have been prepared on a basis which assumes that the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The financial statements do not include any adjustments that may result from the outcome of this uncertainty.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates. Some of the more significant estimates relate to inventory, stock-based compensation, long-lived and intangible assets, contingent consideration and the liability for preferred stock and common stock warrants.

Concentrations of Credit Risk and Significant Customers

Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, marketable securities, accounts receivable and restricted cash. The Company limits its exposure to credit loss by placing its cash and cash equivalents with high credit-quality financial institutions in bank deposits, money market funds, U.S. government securities and other investment grade debt securities that have strong credit ratings. The Company has established guidelines relative to diversification of its cash and marketable securities and their maturities that are intended to secure safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates and changes in the Company's operations and financial position. Although the Company may deposit its cash and cash equivalents with multiple financial institutions, its deposits, at times, may exceed federally insured limits.

The Company's customers are primarily hospitals and surgical centers. At December 31, 2012, no customer receivable balance was 10% or greater of the Company's total trade accounts receivable. At June 30, 2013, one customer receivable balance was 17% of the Company's total trade accounts receivable. There was one customer that accounted for 10% or more of the Company's revenue representing 17% and 14% of revenue for the years ended December 31, 2011 and 2012, and 13% of revenue for the six months ended June 30, 2013, respectively.

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Credit to customers is granted based upon an analysis of the customers' individual credit worthiness. The Company's allowance for bad debts as of December 31, 2011 and 2012, and June 30, 2013, was $284,272, $58,346 and $215,488, respectively. For the years ended December 31, 2011 and 2012, and the six months ended June 30, 2012 and 2013, the Company recorded bad debt expense (recovery) of $297,144, ($27,551), $98,288, and $180,567, respectively.

Revenue Recognition

The Company derives its product revenue primarily from the sale of interbody spinal fusion devices used in the treatment of spine disorders. The Company primarily sells its products through a network of independent sales distributors. Revenue is recognized when all four of the following criteria are met: (i) persuasive evidence that an arrangement exists; (ii) delivery of the products has occurred; (iii) the selling price is fixed or determinable; and (iv) collectability is reasonably assured. In addition, the Company accounts for revenue under provisions which set forth guidelines for the timing of revenue recognition based upon factors such as the passage of title, installation, payment and customer acceptance. The Company's revenue from sales of spinal implants is recognized (a) upon receipt of written acknowledgment that the product has been used in a surgical procedure, (b) upon receipt of a purchase order from a customer for a product that has been used in a surgical procedure, or (c) upon shipment to third-party customers who immediately accept title to such implant.

Cost of Revenue

The expenses that are included in cost of revenue include all direct product costs and manufacturing costs. Specific provisions for excess or obsolete inventory are also included in cost of revenue. Beginning in January 2013, cost of revenue also includes the 2.3% excise tax on the sale of medical devices in the United States.

Cash, Cash Equivalents, Restricted Cash, and Investments

The Company considers all cash on deposit, money market accounts and highly-liquid debt instruments purchased with original maturities of three months or less to be cash and cash equivalents. Restricted cash consists of cash we receive from payments of our accounts receivables held in a segregated account that must be applied to pay amounts owed under our revolving credit facility with General Electric Capital Corporation. The Company's investments in marketable debt and equity securities are deemed by management to be available for sale and are reported at fair market value with the net unrealized appreciation or depreciation reported as a component of accumulated other comprehensive loss in stockholders' deficit. At the time of sale, any realized appreciation or depreciation, calculated by the specific identification method, is recognized in other income and expense.

Inventories

Inventories are stated at the lower of cost or market, with cost for manufactured inventory determined under the standard cost method which approximates first-in first-out ("FIFO"). Manufactured inventory consists of raw material, direct labor and manufacturing overhead cost components. Inventories purchased from third-party manufacturers are stated at the lower of cost or market using the first-in, first-out method. The Company reviews the carrying value of inventory on a periodic basis for excess or obsolete items, and records any write-down as a cost of revenue, as necessary. It is reasonably possible that the Company may be required to make adjustments to the carrying value of inventory in future periods. The Company holds consigned inventory at distributor and other customer locations where revenue recognition criteria have not yet been achieved.

Property and Equipment

Property and equipment, including surgical instruments and leasehold improvements, are stated at cost, less accumulated depreciation and amortization. Property and equipment are depreciated using the straight-line

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

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method over the estimated useful lives of the assets, which range from three to five years. Leasehold improvements are amortized over the shorter of their estimated useful lives or the related lease term, generally five years.

In accounting for long-lived assets, the Company makes estimates about the expected useful lives of the assets, the expected residual values of certain of these assets, and the potential for impairment based on the fair value of the assets and the cash flows they generate. The Company periodically evaluates the carrying value of long-lived assets to be held and used when events and circumstances indicate that the carrying amount of an asset may not be recovered. The Company has not recognized any impairment loss for property and equipment for the year ended December 31, 2012, and the six months ended June 30, 2013.

Long-Lived Assets and Goodwill

Periodically, the Company assesses potential impairment of its long-lived assets, which include property, equipment, and acquired intangible assets. The Company performs an impairment review whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors the Company considers important which could trigger an impairment review include, but are not limited to, significant under-performance relative to historical or projected future operating results, significant changes in the manner of its use of acquired assets or its overall business strategy, and significant industry or economic trends. When the Company determines that the carrying value of a long-lived asset may not be recoverable based upon the existence of one or more of the above indicators, the Company determines the recoverability by comparing the carrying amount of the asset to net future undiscounted cash flows that the asset is expected to generate and recognizes an impairment charge equal to the amount by which the carrying amount exceeds the fair market value of the asset. The Company amortizes intangible assets on a straight-line basis over their estimated useful lives.

The Company tests goodwill for impairment annually as of December 31, or whenever events or changes in circumstances indicate that goodwill may be impaired. The Company initially assesses qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events or circumstances, the Company determines it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, then the Company performs a first step by comparing the book value of net assets to the fair value of the Company's single reporting unit. If the fair value is determined to be less than the book value, a second step is performed to compute the amount of impairment as the difference between the estimated fair value of goodwill and the carrying value. Based upon this assessment, the Company determined that it was not more-likely-than-not that the fair value of the Company's single reporting unit was less than its carrying amount and no goodwill impairment was recognized during the years ended December 31, 2011 or 2012 or the six months ended June 30, 2012 or 2013. As of December 31, 2011 and 2012 and June 30, 2013, the Company had recorded approximately $6.2 million of goodwill related to the Company's acquisition of US Spine in 2010.

Research and Development

All research and development costs, including those funded by third parties, are expensed as incurred. Research and development costs consist of engineering, product development, test-part manufacturing, testing, developing and validating the manufacturing process, and regulatory related costs. Research and development expenses also include employee compensation, employee and nonemployee stock-based compensation, supplies and materials, consultant services, and travel and facilities expenses related to research activities.

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Advertising Costs

Advertising costs are expensed as incurred. The primary component of the Company's advertising expenses is advertising in trade periodicals. Advertising costs were approximately $392,047 and $1,083,225 for the years ended December 31, 2011 and 2012, respectively, and $37,423 and $253,404 for the six months ended June 30, 2012 and 2013, respectively.

Income Taxes

The Company recognizes a liability or asset for the deferred tax consequences of all temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements that will result in taxable or deductible amounts in future years when the reported amounts of the assets and liabilities are recovered or settled. The income tax benefit for the years ended December 31, 2011 and 2012, is $0 and $726,000, respectively. The Company recognizes interest and penalties as a component of the provision for income taxes. The amount of interest and penalties recognized in the years ended December 31, 2011 and 2012 and for the six months ended June 30, 2012 and 2013 was $0.

Stock-Based Compensation

The Company records stock-based compensation expense related to employee stock-based awards based on the estimated fair value of the awards as determined on the date of grant. The Company utilizes the Black-Scholes-Merton option pricing model to estimate the fair value of employee stock options. The Black-Scholes-Merton model requires the input of highly subjective and complex assumptions, including the estimated fair value of the Company's common stock on the date of grant, the expected term of the stock option, and the expected volatility of the Company's common stock over the period equal to the expected term of the grant. The Company estimates forfeitures at the date of grant and revises the estimates, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

The Company accounts for stock options and warrants to purchase shares of stock that are issued to non-employees based on the estimated fair value of such instruments using the Black-Scholes-Merton option pricing model. The measurement of stock-based compensation expense for these instruments is variable and subject to periodic adjustments to the estimated fair value until the awards vest or, in the case of convertible preferred stock warrants, each reporting period until the warrant is exercised. Any resulting change in the estimated fair value is recognized in the Company's consolidated statements of comprehensive loss during the period in which the related services are rendered.

Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of common shares outstanding for the period, without consideration for common stock equivalents. Excluded from the weighted-average number of shares outstanding are unvested restricted stock units ("RSUs") totaling 3,401,950 shares for the six months ended June 30, 2013. Diluted net loss per share is calculated by dividing the net loss by the weighted-average number of common share equivalents outstanding for the period determined using the treasury-stock method. Dilutive common stock equivalents are comprised of convertible preferred stock, warrants for the purchase of convertible preferred stock and common stock, stock options and RSUs outstanding under the Company's equity incentive plans. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

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Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

Potentially dilutive securities not included in the calculation of diluted net loss per share because to do so would be anti-dilutive are as follows (in common stock equivalent shares):

	Year ended December 31,		Six months ended June 30,	
	2011	2012	2012	2013
Convertible preferred stock	71,294,421	92,234,735	74,694,426	96,053,835
Convertible debt shares	12,387,500	—	14,887,500	—
Preferred stock warrants	2,074,731	2,344,731	2,074,731	2,344,731
Options for common stock	7,708,456	7,408,078	7,808,502	3,958,485
Common stock warrants	9,654,928	9,721,928	9,721,928	9,721,928
Restricted stock units	—	—	—	3,401,950
Total	103,120,036	111,709,472	109,187,087	115,480,929

2. Intangible Assets

Indefinite lived intangible assets consist of trademarks, while amortizable intangible assets subject to amortization consist of customer relationships, developed technology and other patents and patent applications, all of which were acquired in 2010 in connection with the US Spine acquisition. The amortizable intangible assets are being amortized over a period of 12 years from the acquisition date. As of December 31, 2011 and 2012 and June 30, 2013, the weighted average remaining life was 10.7, 9.7 and 9.2 years, respectively.

Impairment Analysis

Management of the Company noted that certain US Spine product sales, as well as sales to certain acquired US Spine customers during the one-year period ended December 31, 2012 have been less than expected relative to the forecasted revenues at the time of the acquisition. This indicator prompted the Company to question whether the carrying value of its long-lived and indefinite lived intangible assets would be recoverable. Management compared the carrying amount of the assets to net future undiscounted cash flows that the intangible assets are expected to generate, and concluded that an impairment existed. All of the Company's definite-lived and indefinite-lived intangible assets are categorized within Level 3 of the fair value hierarchy. Management estimated the fair values of the intangible assets and recognized an impairment loss of approximately $15.3 million in the year ended December 31, 2012. Significant assumptions included the following:

Valuation technique	Discounted cash flow method
Weighted-average cost of capital	17%
Weighted-average revenue growth rate	-58% to 10%
EBITDA margin	8.99% to 12.44%

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

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The details of the impairment loss are presented below:

Asset Group	Net Carrying Value of Intangible Assets Prior to Impairment	Impairment of Intangible Assets	Adjusted Net Carrying Value After Impairment Charge
Indefinite-lived intangible assets			
Trademark—US SPINE	$ 1,244,000	$ (1,044,000)	$ 200,000
Trademark—PREFERENCE	700,000	(550,000)	150,000
Trademark—FACET GUN/BOLT	205,000	(205,000)	—
Trademark—JAVELIN	100,000	(100,000)	—
Subtotal—indefinite-lived intangible assets	2,249,000	(1,899,000)	350,000
Long-lived intangible assets			
Customer relationships	7,869,472	(5,779,539)	2,089,933
Developed technology	9,242,139	(6,787,661)	2,454,478
Other patents and patent applications	1,109,250	(814,661)	294,589
Subtotal—long-lived intangible assets	18,220,861	(13,381,861)	4,839,000
Total asset group	$20,469,861	$(15,280,861)	$5,189,000

Following this impairment loss, the estimated amortization expense for each of the five years ending in 2017 is approximately $501,000 per year and $2,334,000 thereafter. The total accumulated amortization as of December 31, 2011 and 2012 and June 30, 2013, is approximately $2,513,000, $4,398,000 and $4,648,000, respectively.

3. Fair Value, Marketable Securities, and Contingent Consideration Liability

Fair Value Measurements

The Company has implemented the accounting requirements for financial assets, financial liabilities, non-financial assets and non-financial liabilities reported or disclosed at fair value. ASC 820, *Fair Value Measurements*, defines fair value, establishes a three level hierarchy for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that a company has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. This hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value. The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date. Assets are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

The Company's financial instruments are cash and cash equivalents, marketable securities, accounts receivable, accounts payable, accrued liabilities, common and preferred stock warrant liabilities, and notes payable. The recorded values of cash and cash equivalents, accounts receivable, accounts payable, and accrued liabilities approximate their fair values based on their short-term nature. The fair value of marketable securities is primarily estimated based upon quoted market prices in either active or inactive markets. The fair value of the

AMEDICA CORPORATION

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common stock warrant liability and the preferred stock warrant is estimated based upon a Black-Scholes-Merton option pricing model. The recorded value of notes payable approximates the fair value as the interest rate approximates market interest rates.

Marketable Securities

Marketable securities at December 31, 2012, and June 30, 2013 are summarized as follows:

	December 31, 2012			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Certificates of deposit	$1,000,000	$ 628	$ —	$1,000,628
Corporate debt securities	1,678,658	1,614	(459)	1,679,813
Total	$2,678,658	$ 2,242	$ (459)	$2,680,441

	June 30, 2013			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Certificates of deposit	$1,000,000	$ —	$ —	$1,000,000
Corporate debt securities	619,349	—	(389)	618,960
Total	$1,619,349	$ —	$ (389)	$1,618,960

Marketable securities available for sale in an unrealized loss position as of December 31, 2011 and 2012, and as of June 30, 2013 are as follows:

	December 31, 2011			
	Held for less than 12 months		Held for more than 12 months	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Corporate debt securities	$5,407,385	$ (25,244)	$462,272	$ (2,514)
Total	$5,407,385	$ (25,244)	$462,272	$ (2,514)

	December 31, 2012			
	Held for less than 12 months		Held for more than 12 months	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Corporate debt securities	$450,000	$ (80)	$319,265	$ (379)
Total	$450,000	$ (80)	$319,265	$ (379)

	June 30, 2013			
	Held for less than 12 months		Held for more than 12 months	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Corporate debt securities	$618,960	$ (389)	$ —	$ —
Total	$618,960	$ (389)	$ —	$ —

The majority of the Company’s marketable securities are valued using quoted prices in markets that are not active or based on other observable inputs. Commercial paper, certificates of deposit and corporate debt securities are categorized as Level 2 because they are based on evaluated prices that reflect observable market information, such

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as actual trade information or similar securities, including interest rates and yield curves, adjusted for observable differences. The Company's asset manager obtains prices from pricing services, whose prices are obtained from direct feeds from market exchanges.

The following table sets forth the fair value of the Company's financial assets that were re-measured as of December 31, 2011 and 2012, and June 30, 2013, respectively:

	Level 1	Level 2	Level 3	Total
At December 31, 2011:				
Commercial paper	$ —	$ 649,244	$ —	$ 649,244
Corporate debt securities	—	7,159,400	—	7,159,400
Total	$ —	$7,808,644	$ —	$7,808,644
	Level 1	**Level 2**	**Level 3**	**Total**
At December 31, 2012:				
Certificate of deposit	$ —	$1,000,628	$ —	$1,000,628
Corporate debt securities	—	1,679,813	—	1,679,813
Total	$ —	$2,680,441	$ —	$2,680,441
	Level 1	**Level 2**	**Level 3**	**Total**
At June 30, 2013:				
Certificates of deposit	$ —	$1,000,000	$ —	$1,000,000
Corporate debt securities	—	618,960	—	618,960
Total	$ —	$1,618,960	$ —	$1,618,960

Maturities of marketable securities are as follows at December 31, 2011 and 2012 and for June 30, 2013:

	December 31, 2011		December 31, 2012		June 30, 2013	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Due within one year	$6,426,679	$6,404,135	$1,359,013	$1,360,547	$ 619,349	$ 618,960
Due after one but before five years	1,404,998	1,404,509	1,319,645	1,319,894	1,000,000	1,000,000
Total	$7,831,677	$7,808,644	$2,678,658	$2,680,441	$1,619,349	$1,618,960

No impairment losses were recognized through earnings related to available for sale securities for the periods ended December 31, 2011 and 2012, and June 30, 2013.

The proceeds from maturities and sales of marketable securities and resulting realized gain and losses for the periods ended December 31, 2011, and 2012 and June 30, 2013 are as follows:

	For the year ended		For the six months ended
	December 31, 2011	December 31, 2012	June 30, 2013
Proceeds from maturities and sales	$ 7,331,874	$ 10,209,869	$1,404,589
Realized gains	842	127	—
Realized losses	(268)	—	—

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

For fair value disclosures regarding warrants to purchase convertible preferred stock, see Preferred Stock Warrant Liability under Note 8. For fair value disclosures regarding warrants to purchase common stock, see Common Stock Warrant Liability under Note 7.

Contingent Consideration Liability

The following table presents the Company's contingent consideration liability, measured at fair value on a recurring basis. The December 31, 2011 fair value was determined based on the ultimate settlement amount which occurred shortly after the end of 2012:

	Contingent Consideration Liability
Balance at December 31, 2010	$ 1,968,401
Change in fair value included in earnings	4,831,609
Balance at December 31, 2011	6,800,010
Settlement of contingency by issuance of preferred shares	(6,800,010)
Balance at December 31, 2012	$ —

4. Property and Equipment

The following is a summary of the components of property and equipment:

	December 31, 2011	December 31, 2012	June 30, 2013
Manufacturing and lab equipment	$ 6,975,210	$ 6,975,210	$ 7,052,285
Surgical instruments	6,910,410	6,357,891	7,058,510
Leasehold improvements	1,430,221	1,430,221	1,430,221
Software and computer equipment	901,416	807,456	807,456
Furniture and equipment	627,751	620,751	620,751
	$ 16,845,008	16,191,529	16,969,223
Less: accumulated depreciation and amortization	(11,865,814)	(13,168,997)	(14,058,523)
	$ 4,979,194	$ 3,022,532	$ 2,910,700

5. Inventories

The following is a summary of the components of inventories:

	December 31, 2011	December 31, 2012	June 30, 2013
Raw materials	$ 981,745	$ 968,688	$ 984,532
Work-in-process	1,367,897	421,542	1,083,042
Finished goods	9,047,663	7,435,664	6,557,436
	$ 11,397,306	$ 8,825,894	$8,625,010

Current finished goods include consigned inventory in the amounts of approximately $4,871,000 and $5,558,000 as of December 31, 2011 and 2012, respectively and $5,677,000 as of June 30, 2013.

Inventory write-downs for excess or obsolete inventory are recorded as a cost of revenue and totaled $0 and approximately $1,043,000 for the years ended December 31, 2011 and 2012, respectively and $750,000 and $267,000 for the six months ended June 30, 2012 and 2013, respectively.

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6. Accrued Liabilities

Accrued liabilities consist of the following:

	December 31, 2011	December 31, 2012	June 30, 2013
Commissions	$ 513,825	$ 755,918	$1,050,554
Payroll and related expenses	408,446	521,555	523,782
Royalties	134,373	246,300	244,872
Interest payable	72,408	71,536	114,165
Trade shows	329,559	—	—
Legal and patent expenses	136,768	—	—
Other	277,218	4,004	108,315
	$1,872,597	$1,599,313	$2,041,688

7. Debt and Line of Credit

The following table summarizes the maturities of the Company's debt, at face value, as of December 31, 2012:

2013	$ —
2014	7,200,000
2015	7,200,000
2016	3,600,000
2017	—
Thereafter	—
	$18,000,000

Total interest expense for all debt instruments for the years ended December 31, 2011 and 2012 and the six months ended June 30, 2012 and 2013 was $3.5 million, $5.6 million, $2.5 million and $0.9 million, respectively. See Note 13, Subsequent Events, regarding debt modifications in 2013.

Bank Debt

In February 2009, the Company borrowed $5.0 million from a bank under a promissory note agreement ("Term Loan 1"). The Term Loan agreement required that $1.0 million in principal be repaid annually for five years, along with interest which was due and payable on a monthly basis. The interest rate was 3.5% per annum above the Ninety-Day London Interbank Offered Rate. The Company pledged all of its inventory, accounts receivable and equipment as collateral for the loan. The Company could prepay all or any portion of the promissory note without penalty. In December 2009, the Company amended the agreement to extend the first principal repayment date to February 1, 2010. The amendment also added a minimum liquidity covenant of $5.0 million through January 31, 2010, and not less than $6.0 million thereafter.

In April 2010, the Company further amended the Term Loan 1 agreement, extending the date of the first principal repayment, increasing the principal balance of the term loan note from $5.0 million to $7.5 million and adding a line of credit facility, with a total amount available of $2.5 million. The amendment also modified the interest rate for both the promissory note and the line of credit to 4.25% per annum above the 90-day London Interbank Offered Rate with a floor of 4.5% and increased the principal repayments on the term loan note to $1.5 million annually. The amendment provides for an unused commitment fee of 0.5% per annum on the unused portion of the line of credit, payable quarterly in arrears. The amendment also includes a minimum liquidity covenant of $4.0 million through April 2010 and not less than $6.0 million thereafter. The Company

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received the proceeds from the additional $2.5 million term loan in April 2010 and borrowed $1.86 million under the line of credit in December 2010. In March 2011, the Company repaid the entire $1.86 million borrowed under the line of credit.

In 2010, the Company paid approximately $45,000 in loan fees and related costs in connection with the amendment, which will be amortized over the five year term of the promissory note. Also in 2010, in connection with the amendment, the Company issued warrants to purchase 50,000 shares of the Company's Series E convertible preferred stock, to the bank. The warrants became exercisable, after one year, at the purchase price of $2.20 per share and expire after five years. There are certain conditions that would have caused the warrants to become immediately exercisable. The Company has accounted for these warrants under the provisions of ASC 480, *Distinguishing Liabilities from Equity*. Accordingly, the Company has recorded a liability for the fair value of these warrants in 2010, and is required to record fair value adjustments to the liability at the end of each reporting period.

In September 2010, in connection with the acquisition of US Spine, the Company guaranteed a $5.0 million loan to US Spine, a wholly owned subsidiary of the Company ("Term Loan 2"). Term Loan 2 matures on August 1, 2015, is secured by all of the assets of US Spine and requires interest to be paid on a monthly basis. The agreement states that $1.0 million in principal be repaid annually commencing August 1, 2011 and on each August 1 thereafter with one final payment of all interest and outstanding principal due on August 1, 2015. The interest rate is 4.25% per annum above the Ninety-Day London Interbank Offered Rate with a floor of 4.5%. The Company may prepay all or any portion of Term Loan 2 without penalty. The Company paid approximately $53,000 in loan fees and related costs in connection with the agreement, which will be amortized over the remaining term of the note.

In March 2011, the Company amended its Term Loan 1 and Term Loan 2 agreements. The March 2011, amendment to the Term Loan 1 agreement increase the principal from $7.5 million to $10.5 million, increase the annual payments from $1.5 million to $2.1 million and extended the date of the first principal repayment to April 1, 2012 (and annually thereafter) with a final payment due April 1, 2015. The March 2011 amendment to the Term Loan 2 extends the date of the first principal repayment of $1.0 million to August 1, 2012, with a final payment due August 1, 2015. The March 2011 amendments included a minimum liquidity covenant of not less than $6.0 million, minimum EBITDA, minimum gross profit, minimum loan to value and certain other financial covenants and limitations on dividends, distributions, other indebtedness, sale of assets, etc. The March 2011, amendment also grants the bank a perfected first security interest in all assets of the Company. As of December 31, 2011, the Company was not in compliance with its minimum EBITDA and minimum gross profit covenants, but in May 2012, the Company obtained a waiver from the bank. As of May 31, 2012, the Company was in compliance with all of its debt covenants. As of June 30, 2012, the Company was not in compliance with its debt covenants with respect to the issuance of audited financial statements for the year ended December 31, 2011. In July 2012, the Company obtained a waiver from the bank with respect to this covenant.

As of December 31, 2011, $2.0 million and $15.5 million were classified as current and long-term debt, respectively, regarding total bank debt. As of December 31, 2011, the Company was not in compliance with its minimum EBITDA and minimum gross profit covenants but obtained a waiver from the bank in May 2012.

In May 2012, the Company amended its Term Loan 1 and Term Loan 2 agreements. The amendment did not change the principal balances, which remained at $10.5 million and $5.0 million, respectively; however, the annual principal repayments beginning in 2012 for both loans were waived and the maturity date was modified to be April 1, 2013. In connection with the May 2012 amendments new minimum gross profit and minimum EBITDA targets were established and the Company incurred approximately $50,000 in legal and debt modification fees payable to the bank.

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In December 2012, the Company repaid all amounts outstanding under the Term Loan 1 and Term Loan 2 agreements with the bank, as well as all amounts outstanding under the line of credit facility, totaling $18.0 million in principal and approximately $36,000 in accrued interest. The Company wrote off approximately $52,000 of capitalized debt issuance costs related to the term loans and the line of credit facility. The Company paid $107,500 in commissions related to the debt restructuring, of which approximately $70,000 was capitalized as debt issuance costs and the remaining $37,500 was recorded as interest expense in 2012. See New Bank Debt disclosures below.

US Spine-Related Note Payable

In connection with the acquisition of US Spine in September 2010, the Company entered into a subordinated secured promissory note agreement to pay two equal payments of $3.0 million to a US Spine stockholder over a two-year period. In accordance with this note agreement, the Company paid $3.0 million to the US Spine stockholder during 2011 and paid the remaining $3.0 million in 2012. The Company discounted the note using an imputed interest rate of 6.5%, which approximated a market rate of interest on the acquisition date. As of December 31, 2011, $2.9 million was classified as a current liability.

Senior Secured Subordinated Convertible Promissory Notes

From March to May 2011, the Company issued $24.8 million in aggregate principal amount of Senior Secured Subordinated Convertible Promissory Notes (the "Notes"). The Company also received a commitment to purchase $5.0 million of Notes in February 2012, at the option of the Company ("Commitment Notes"). The Notes mature two years from issuance (one year on the Commitment Notes) and interest was paid quarterly at 6% for the first year and 8% for year two. The Notes may be converted to common stock at a conversion rate of $2.00 per share. The Note holders also received 3-year warrants exercisable for shares of the Company's common stock equal to 50% of the principal amount of the Notes divided by two, with an exercise price of $2.00 per share (total of 7,443,750 warrants) (the "Note Holder Warrants"). The warrants are fully exercisable immediately and expire after three years from issuance. The Company paid approximately $1.2 million in commissions, loan fees and related costs in connection with the Notes, which will be amortized over the two year term of the Notes. In connection with the closing of the Notes, and in accordance with the US Spine acquisition agreement, $1.0 million of the $24.8 million in proceeds was paid in March 2011 towards the $3.0 million due to a US Spine stockholder in September 2011.

As of December 31, 2011, $0 and $23.6 million were classified as current and long-term debt, respectively, regarding the Notes. The long-term amount of $23.6 million as of December 31, 2011 was increased by $5.0 million in February 2012 by the Commitment Notes, and was being accreted up to $29.8 million by the maturity dates in March–May 2013, through charges to interest expense.

In December 2012, contemporaneous with the closing of the New Bank Debt (see below), holders of approximately 82% of the outstanding principal balance of the Notes consented to the conversion of the Notes into shares of Series F convertible preferred stock at $2.00 per share, pursuant to the Company's request. The Company issued 14,887,500 shares of Series F convertible preferred stock. See Convertible preferred stock under Note 8.

New Bank Debt/Preferred Stock Warrant Liability

In December 2012, the Company closed on a $21.5 million senior secured credit facility (the "New Bank Debt") with a bank consortium consisting of two lenders, one of which was the existing bank lender from whom the Company borrowed beginning in 2009 (see Bank Debt above). The new agreement consists of a term loan for $18.0 million and a $3.5 million revolving line of credit secured by the Company's accounts receivable, based on certain defined criteria. The term loan consists of interest only payments for a period of 12 months after which

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monthly principal payments of approximately $600,000 are required for a period of 30 months. The term loan bears interest at the fixed rate of 7.5% per annum, while the line of credit had an interest rate of 7.0% at December 31, 2012 and June 30, 2013, which is based on the variable rate of 5.5% plus the higher of (i) 1.5% and (ii) the three-month LIBOR determined as of two London business days divided by a number equal to 1.0 minus the aggregate of the rates of reserve requirements on the day that is two London business days prior to the beginning of the interest period for Eurocurrency funding that are required to be maintained by a member bank of the Federal Reserve System. The Company pledged all of its assets as collateral for the loan. The agreement includes a non-refundable final payment fee equal to 4% of the original principal amount of the term loan, as well as an annual management fee equal to $15,000 per year.

The agreement includes certain financial covenants related to minimum liquidity including six (6) times the monthly cash burn amount, as defined, days sales outstanding of accounts receivable balances, and other financial reporting requirements. Upon any event of default, including the financial covenants, the lender may declare the loan immediately due and payable. The agreement provides for an unused credit facility fee of 0.75% per annum of the unused portion of the line of credit, payable monthly in arrears. The Company paid a total of approximately $333,000 in fees and commissions associated with the New Bank Debt, of which approximately $264,000 was capitalized as debt issuance costs and the remaining $69,000 was recorded as interest expense in 2012. The agreement includes a final payment fee of $720,000 due upon prepayment in full or at scheduled maturity.

In December 2012, in connection with the New Bank Debt, the Company issued warrants to purchase 270,000 shares of the Company's Series F convertible preferred stock to the two lenders. The warrants are immediately exercisable at the purchase price of $2.00 per share and expire after ten years. The Company has accounted for these warrants under the provisions of ASC 480, *Distinguishing Liabilities from Equity*. Accordingly, the Company has recorded a liability for the fair value of these warrants in 2012, and is required to record fair value adjustments to the liability at the end of each reporting period. See Preferred Stock Warrant Liability under Note 8.

Common Stock Warrant Liability

Due to the issuance of 7,443,750 Note Holder Warrants in 2011, the Company was required to allocate the total proceeds received in the Notes offering to the common stock warrants and the Notes using the residual method. Under this method, the fair value of the Note Holder Warrants at the grant date was allocated to the Note Holder Warrants with the remaining proceeds allocated to the Note. The Note Holder Warrants are considered mark-to-market liabilities which are re-measured to fair value at each reporting period due to a round down provision whereby the exercise price of the warrants would change, if subsequent equity instruments were issued with an exercise price less than $2.00 per share. The fair value of the Note Holder Warrants at the grant date was approximately $1.8 million based upon the Black-Scholes-Merton option pricing model and the assumptions set forth in the table below. This amount has been recorded as a derivative liability while also reducing the carrying amount of the Notes. During the year ended December 31, 2011, approximately $559,000 was accreted as non-cash interest expense and increased the carrying amount of the Notes. The Company revalued the fair value of the derivative liability as of December 31, 2011, using the Black-Scholes-Merton option pricing model and decreased the carrying amount of the derivative liability by approximately $192,000.

In connection with the issuance of the Notes, the Company issued warrants to purchase 1,483,500 shares of common stock to the placement agent in May 2011, in connection with the Notes, the Company was required to record the fair value of the warrants of approximately $535,000 as a derivative liability, similar to the $1.8 million associated with the issuance of Note Holder Warrants with the offset being capitalized as debt issuance costs included in prepaid expenses. This asset was written off in 2012 to interest expense in connection with the conversion of the associated debt to equity; see Senior Secured Subordinated Convertible Promissory Note above. The warrants are fully exercisable after one year from issuance and expire after five years from

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issuance. The exercise price of the warrants is equal to 110% of the conversion price of the underlying common stock, or $2.20. On the closing of an initial public offering, all of the common stock warrants issued to the placement agent will become immediately exercisable. The Company capitalized the initial value of the warrants as debt issuance costs with a corresponding derivative liability for common stock warrants.

The initial value of the placement agent warrants was approximately $535,000 was based upon the Black-Scholes-Merton option pricing model and the 2011 per-share assumptions set forth in the table below. During the year ended December 31, 2011, the Company amortized $166,000 as non-cash interest expense which reduced the carrying value of the debt issuance costs and will continue amortizing the debt issuance costs over the remaining term of the Notes. The Company revalued the derivative liability as of December 31, 2011, using the Black-Scholes-Merton option pricing model and the 2011 assumptions set forth below and increased the carrying amount by approximately $20,000. The change in the fair value of the derivative liability for all of the common stock warrants for the year ended December 31, 2011 was a decrease of approximately $172,000.

During 2011 the Company recorded the initial fair value of the common stock warrants as a liability. The Company will continue to adjust the liability for changes in fair value until the earlier of the exercise of the warrants to purchase shares of common stock or the completion of a liquidation event. The common stock warrant liability fair value was determined using primarily unobservable inputs and has been classified as a Level 3 liability in accordance with U.S. GAAP.

During 2012 the Company reduced the exercise price of the 7,443,750 Note Holder Warrants, from $2.00 to $1.00 per share, in connection with the conversion of the convertible debt into 14,887,500 shares of Series F convertible preferred stock as discussed above and in Note 8 and also extended the expiration date by four years to March 2018. This caused an increase in the value of the common stock liability of approximately $2.0 million; see the table below. In February 2013, the Company further reduced the exercise price of the 7,443,750 Note Holder Warrants, from $1.00 to $0.68 per share, and offered a replacement warrant for every Note Holder Warrant exercised at $0.68 per share. The replacement warrants contain the same terms and conditions (including exercise price and term) as before the February 2013 amendment. This caused an increase in the common stock liability of approximately $339,000. As a result of this amendment, the Company raised $3.1 million from the exercise of warrants for common stock and issued 4,601,177 shares of common stock. In connection with this financing, the Company paid Creation Capital LLC, its financial advisor, approximately $250,000 in commissions pursuant to its 2012 financial advisor consulting agreement. The following table summarizes the changes in the common stock warrant liability for the years ended December 31, 2012 and 2011, and the six months ended June 30, 2013:

	Common Stock Warrant Liability
Balance at December 31, 2010	$ —
Increase in liability due to issuance of warrants to placement agent	(534,763)
Increase in liability due to issuance of warrants to noteholders	(1,802,553)
Decrease in fair value included in earnings, as other income	172,381
Balance at December 31, 2011	$(2,164,935)
Increase in liability due to modification of warrant terms	(1,998,575)
Decrease in fair value included in earnings, as other income	1,380,319
Balance at December 31, 2012	$(2,783,191)
Increase in liability due to modification of warrant terms (unaudited)	(339,121)
Decrease in fair value included in earnings, as other income (unaudited)	44,883
Balance at June 30, 2013 (unaudited)	$(3,077,429)

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The assumptions used in estimating the common stock warrant liability as of December 31, 2011 and 2012 and June 30, 2013 and for the periods then ended, are set forth below:

	As of and for the year ended December 31,		As of and for the six months ended June 30,
	2011	2012	2013
Estimated fair value of Company common shares	$ 1.00	$ 0.68	$ 0.68
Weighted-average risk free interest rate	1.31%	0.68%	1.29%
Weighted-average expected life (in years)	3.33	4.93	4.43
Expected dividend yield	0%	0%	0%
Weighted average expected volatility	64%	71%	71%

The significant assumptions used in determining the estimated fair value of the Company's common shares are updated on an annual basis and include the following:

	As of and for the year ended December 31,	
Valuation technique	2011	2012
	Hybrid of discounted cash flow method and guideline public company methodology	Hybrid of discounted cash flow method and guideline public company methodology
Weighted-average cost of capital (WACC)	18%	17%
Revenue growth rate (range)	609% to 5.7%	609% to 13.5%
Compounded average revenue growth rate	17.5%	17.7%
EBITDA margin (range)	(9877)% to 28.9%	(9877)% to 32.7%

The effect of changes to these significant assumptions on the estimated liability for preferred stock warrants are set forth below:

Fair value of Company common shares	Warrant liability increases
WACC increases	Warrant liability decreases
Revenue growth increases	Warrant liability increases
Average revenue growth increases	Warrant liability increases
EBITDA margin increases	Warrant liability increases
Risk free interest increases	Warrant liability decreases
Expected average life increases	Warrant liability increases
Expected dividend yield increases	Warrant liability decreases
Expected volatility increases	Warrant liability increases

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8. Equity

Common Stock

The Company had reserved shares of common stock for future issuance as follows:

	December 31,		June 30,
	2011	2012	2013
Convertible preferred stock			
Shares outstanding	57,882,889	76,170,394	76,170,394
Warrants			
Series C convertible preferred stock	1,203,750	1,203,750	1,203,750
Series D convertible preferred stock	253,290	253,290	253,290
Series E convertible preferred stock	617,691	617,691	617,691
Series F convertible preferred stock	—	270,000	270,000
Common stock	9,654,928	9,721,928	9,721,928
Options outstanding	7,708,456	7,408,078	3,958,485
Restricted Stock Units	—	—	3,401,950
Shares available for grant under equity incentive plans	3,810,981	4,099,759	6,749,352
	81,131,985	99,744,890	102,346,840

Convertible Preferred Stock

In December 2012, the Company issued 14,887,500 shares of Series F convertible preferred stock at $2.00 per share upon conversion of the Notes. The placement agent received commissions of approximately $447,000 in connection with this conversion. See Senior Secured Subordinated Convertible Promissory Notes under Note 7. See also “Conversion Price Protection for Series F Convertible Preferred Stock” below.

At December 31, 2011, convertible preferred stock consisted of the following:

Series	Designated Shares	Shares Issued and Outstanding	Aggregate Liquidation Preference
Series A	5,800,000	5,365,398	$ 3,219,239
Series A-1	10,400,000	10,390,463	6,234,278
Series B	2,300,000	1,944,147	2,332,976
Series B-1	3,300,000	3,299,141	3,958,969
Series C	5,400,000	4,125,000	8,250,000
Series C-1	4,325,000	4,275,000	8,550,000
Series D	8,200,000	7,978,800	23,936,400
Series D-1	6,300,000	6,145,667	18,437,001
Series E	31,150,000	14,359,273	28,718,546
Undesignated	22,825,000	—	—
Total	100,000,000	57,882,889	$103,637,409

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At December 31, 2012 and June 30, 2013, convertible preferred stock consisted of the following:

Series	Designated Shares	Shares Issued and Outstanding	Aggregate Liquidation Preference
Series A	5,800,000	5,365,398	$ 3,219,239
Series A-1	10,400,000	10,390,463	6,234,278
Series B	2,300,000	1,944,147	2,332,976
Series B-1	3,300,000	3,299,141	3,958,969
Series C	7,900,000	6,682,562	13,365,124
Series C-1	4,325,000	4,275,000	8,550,000
Series D	8,300,000	7,978,800	23,936,400
Series D-1	6,300,000	6,145,667	18,437,001
Series E	16,200,000	15,201,716	30,403,432
Series F	14,950,000	14,887,500	29,775,000
Undesignated	20,225,000	—	—
Total	100,000,000	76,170,394	$140,212,419

The rights and preferences of the convertible preferred stock are as follows:

Dividends

Holders of the convertible preferred stock shall be entitled to receive noncumulative dividends in preference to any dividend on common stock payable only if declared by the Board of Directors. As of December 31, 2011 and 2012, and June 30, 2013, the Board of Directors had not declared any dividends.

Liquidation Preference

In the event of any liquidation or winding up of the Company, including in the event of the merger, consolidation and sale of the Company, the holders of Series F convertible preferred stock shall be entitled to receive, in preference to holders of all other series of preferred stock and holders of common stock, a per share amount equal to $2.00, plus all accrued but unpaid dividends, when, as and if declared. If the Series F convertible preferred stock liquidation preference is paid in full to holders of such preferred stock, thereafter, the holders of Series A and A-1, Series B and B-1, Series C and C-1, Series D and D-1 convertible preferred stock, and Series E convertible preferred stock, shall be entitled to receive ratably, and in preference to the holders of common stock, a per share amount equal to $0.60 for Series A and A-1 convertible preferred stock, $1.20 for Series B and B-1 convertible preferred stock, $2.00 for Series C and C-1 convertible preferred stock, $3.00 for Series D and D-1 convertible preferred stock, and $2.00 for Series E convertible preferred stock plus, with respect to each such series of preferred stock, all declared but unpaid dividends. After the payment of the liquidation preference to the holders of the preferred stock, the remaining assets shall be distributed ratably to the holders of the common stock.

A sale, merger, reorganization, liquidation, dissolution or winding up of the Company may, in certain circumstances, be deemed to be a liquidation event and trigger the liquidation preferences associated with the outstanding shares of convertible preferred stock. Because a change of control could occur and not be solely within the control of the Company, all convertible preferred stock has been deemed to be redeemable and classified outside of permanent equity in the accompanying consolidated balance sheets. However, because the timing of any such redemption is uncertain, the Company will not accrete the carrying value of the convertible preferred stock to its liquidation preference value until it becomes probable that redemption will occur.

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Conversion

The holders of the convertible preferred stock shall have the right to convert the shares of preferred stock held by such holders, at any time, into shares of common stock. Upon conversion, any declared but unpaid dividends on the preferred stock will be paid in additional shares of common stock.

The convertible preferred stock shall be automatically converted into common stock, at the then applicable conversion ratio, upon the closing of a public offering of shares of common stock at a per share price not less than the then applicable conversion price (as adjusted for stock splits, stock dividends, recapitalizations, etc.).

Conversion Price Protection for Series F Convertible Preferred Stock

Holders of the Series F convertible preferred stock enjoy certain protections in the event the Company closes its initial underwritten public offering pursuant to an effective registration statement covering the offer and sale to the public of common stock for the account of the Company (an “IPO”) or closes a transaction that constitutes a change of control of the Company (a “Change of Control Transaction”). In the event the Company closes an IPO and the IPO price per share of common stock offered to the public is equal to or greater than $2.50 per share (subject to adjustment), the Series F conversion price shall be the Series F conversion price in effect immediately prior to the closing of the IPO. In the event the Company closes an IPO and the IPO price per share of common stock offered to the public is less than $2.50 per share (subject to adjustment), the Series F conversion price shall be adjusted to the lesser of (1) 80% of the IPO price per share and (2) the Series F conversion price in effect immediately prior to the IPO. In the event the Company closes a Change of Control Transaction and the aggregate consideration paid, payable, escrowed (including contingent consideration) per common equivalent share is equal to or greater than $2.50 per share (subject to adjustment), the Series F conversion price shall be the Series F conversion price in effect immediately prior to the closing of the Change of Control Transaction. In the event the Company closes a Change of Control Transaction and the transaction consideration per common equivalent share is less than $2.50 per share (subject to adjustment), the Series F conversion price shall be adjusted to the lesser of (1) 80% of the Change of Control consideration per common equivalent share and (2) the Series F conversion price in effect immediately prior to the closing of a Change of Control Transaction.

Voting Rights

The preferred stock will vote together with the common stock, and not as separate classes, except as specifically provided below or as otherwise required by law. Each share of preferred stock shall have a number of votes equal to the number of shares of common stock the preferred stock is convertible into on an as-converted basis.

Unless an affirmative vote of 50% of the combined outstanding shares of preferred stock, voting separately as a class, is obtained, the Company shall not undertake any of the following: (i) declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Company or any subsidiary; (ii) any liquidation, dissolution, recapitalization or reorganization of the Company; (iii) transfer or disposition of assets or rights with a value of more than $1,000,000; and/or (iv) any amendment to the Company’s certificate of incorporation that changes or alters any of the preferences, voting powers or other rights and privileges of preferred stock.

Registration Rights

The preferred stockholders and warrant holders were granted registration rights that provide these holders the right to request, beginning 180 days after the completion of a qualifying initial public offering, that the Company file a registration statement to register under the Securities Act the common stock that would be issued upon conversion of the preferred shares or exercise of the warrants. Thereupon, the Company is obligated to use commercially reasonable efforts to timely file a registration statement. These registration rights are subject to

certain conditions and limitations, including the Company's right, based on advice of the lead managing underwriter of a future offering, to limit the number of shares included in any such registration under certain circumstances.

Preferred Stock Warrant Liability

In connection with the various convertible preferred stock offerings, the placement agent received warrants to purchase convertible preferred stock. The warrants are fully exercisable after one year from issuance and expire after seven years. As described in Note 11, Related-Party Transactions, during 2012 the Company extended the expiration date for the warrants to purchase Series C convertible preferred stock by an additional five years. The exercise price of these warrants is equal to 110% of the offering price of the underlying convertible preferred stock. On the closing of an initial public offering, these warrants will convert into warrants to purchase shares of common stock at the then applicable conversion rate for the related preferred stock. During 2012, the Company granted warrants to purchase Series F convertible preferred stock at $2.00 per share to a bank in connection with the debt refinancing (see Note 7, New Bank Debt). The warrants to purchase Series F convertible preferred stock are immediately exercisable and expire after ten years. The grant dates, number of warrants, exercise price and estimated fair value of the warrants at December 31, 2011 and 2012 and June 30, 2013, are as noted below:

Series of convertible preferred stock underlying warrants	Grant Date	Number of Warrants	Exercise Price	Estimated Fair Value December 31, 2011
Series C	02/24/06	1,203,750	$ 2.20	$ 60,188
Series D	04/27/07	253,290	$ 3.30	27,862
Series E	03/22/10	617,691	$ 2.20	240,899
		2,074,731		$ 328,949

Series of convertible preferred stock underlying warrants	Grant Date	Number of Warrants	Exercise Price	Estimated Fair Value December 31, 2012
Series C	02/24/06	1,203,750	$ 2.20	$ 276,863
Series D	04/27/07	253,290	$ 3.30	7,599
Series E	03/22/10	617,691	$ 2.20	129,715
Series F	12/17/12	270,000	$ 2.00	111,302
		2,344,731		$ 525,479

Series of convertible preferred stock underlying warrants	Grant Date	Number of Warrants	Exercise Price	Estimated Fair Value June 30, 2013
Series C	02/24/06	1,203,750	$ 2.20	$ 268,804
Series D	04/27/07	253,290	$ 3.30	2,931
Series E	03/22/10	617,691	$ 2.20	114,123
Series F	12/17/12	270,000	$ 2.00	109,931
		2,344,731		$ 495,789

Freestanding warrants for shares that are either putable or warrants for shares that are redeemable are classified as liabilities on the balance sheet at fair value. In connection with the grant of the warrants to purchase Series C convertible preferred stock in 2006, Series D convertible preferred stock in 2007, Series E convertible preferred stock in 2010, and Series F convertible preferred stock in 2012, the Company recorded the initial fair values of the warrants of $928,625, $442,482, $265,607, and $111,302, respectively, as a preferred stock warrant liability.

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

At the end of each reporting period, changes in fair value during the period are recorded as a component of other income or expense. The preferred stock warrant liability fair value was determined using primarily unobservable inputs and has been classified as a Level 3 liability.

During 2011 the Company recorded a $132,347 decrease in the preferred stock warrant liability due to the exercise by stockholders of 282,820 warrants for Series A convertible preferred stock (48,125 for cash and 234,695 net exercised) and 278,374 warrants for Series B convertible preferred stock (all net exercise). For the years ended December 31, 2011 and 2012 and the six months ended June 30, 2013, the Company recorded a benefit of $307,890, a charge of $85,228 and a benefit of $29,690, respectively, for the change in fair value of the preferred stock warrants. The Company will continue to adjust the liability for changes in fair value until the earlier of the exercise of the warrants to purchase shares of convertible preferred stock, the completion of a liquidation event, including the completion of an initial public offering, at which time the liabilities will be reclassified to stockholders' deficit when the warrants are converted to common stock warrants, or the expiration of the warrants.

The valuation of the preferred stock warrant liability has been determined using the underlying common share value; See Common Stock Warrant Liability under Note 7. The following table presents the changes in the estimated fair value of the preferred stock warrant liability for the years ended December 31, 2011 and 2012 and the six months ended June 30, 2013:

	Preferred Stock Warrant Liability
Balance at December 31, 2010	$ 769,186
Cashless exercise of preferred stock warrants	(115,984)
Reduction in liability due to exercise of warrants for cash	(16,363)
Change in fair value included in earnings	(307,890)
Balance at December 31, 2011	$ 328,949
Increase in liability due to issuance of warrants	111,302
Change in fair value included in earnings	85,228
Balance at December 31, 2012	$ 525,479
Change in fair value included in earnings	(29,690)
Balance at June 30, 2013	$ 495,789

The assumptions used in estimating the preferred stock warrant liability as of December 31, 2011 and 2012 and June 30, 2013 and for the periods then ended, are set forth below:

	As of and for the year ended December 31,		As of and for the six months ended June 30,
	2011	2012	2013
Estimated fair value of the Company's common shares	$ 1.00	$ 0.68	$ 0.68
Weighted-average risk free interest rate	1.31%	0.68%	1.11%
Weighted-average expected life (in years)	3.33	4.93	4.68
Expected dividend yield	0%	0%	0%
Weighted-average expected volatility	64%	71%	74%

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

The significant assumptions used in determining the estimated fair value of the Company's common shares are updated on an annual basis and include the following:

Valuation technique	As of and for the year ended December 31,	
	2011	2012
	Hybrid of discounted cash flow method and guideline public company methodology	Hybrid of discounted cash flow method and guideline public company methodology
Weighted-average cost of capital (WACC)	18%	17%
Revenue growth rate (range)	609% to 5.7%	609% to 13.5%
Compounded average revenue growth rate	17.5%	17.7%
EBITDA margin (range)	(9877)% to 28.9%	(9877)% to 32.7%

The effect of changes to these significant assumptions on the estimated liability for preferred stock warrants are set forth below:

Fair value of Company common shares	Warrant liability increases
WACC increases	Warrant liability decreases
Revenue growth increases	Warrant liability increases
Average revenue growth increases	Warrant liability increases
EBITDA margin increases	Warrant liability increases
Risk free interest increases	Warrant liability decreases
Expected average life increases	Warrant liability increases
Expected dividend yield increases	Warrant liability decreases
Expected volatility increases	Warrant liability increases

2003 and 2012 Option and Equity Plans

Under the Company's 2003 Stock Option Plan (the "2003 Plan"), the Company's Board of Directors has authorized the grant of options to employees and nonemployees for the issuance of up to 12,000,000 shares of the Company's common stock. All options granted have a term of ten years from the date of the grant and generally become fully exercisable within four years of continued employment or service at a rate defined in each option agreement.

In September 2012, the Company's Board of Directors adopted the 2012 Employee, Director and Consultant Equity Incentive Plan (the "2012 Plan") and resolved to cease awarding any further equity awards under the 2003 Plan. At that time there were approximately 4,000,000 approved and available shares of Common Stock available for issuance under the 2003 Plan. The Board resolved to transfer the available approximately 4,000,000 shares under the 2003 Plan into the 2012 Plan and further resolved that any outstanding shares of Common Stock represented by awards previously granted under the 2003 Plan that are forfeited, expire or are cancelled without delivery of shares of Common Stock shall be made available for award under the 2012 Plan.

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Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

A summary of the Company's stock option activity and related information is as follows:

	Options Outstanding		
Series	Shares Available for Grant	Number of Options	Weighted-Average Exercise Price
Balance at December 31, 2010	3,111,059	8,425,566	$ 1.10
Granted	(1,242,600)	1,242,600	1.00
Exercised	—	(17,188)	0.21
Cancelled	1,942,522	(1,942,522)	1.65
Balance at December 31, 2011	3,810,981	7,708,456	1.05
Granted	(2,331,308)	2,331,308	1.00
Exercised	—	(11,600)	0.45
Cancelled	2,620,086	(2,620,086)	1.33
Balance at December 31, 2012	4,099,759	7,408,078	$ 0.90
Granted	—	—	—
Exercised	—	(800,000)	0.11
Cancelled	2,649,593	(2,649,593)	1.01
Balance at June 30, 2013	6,749,352	3,958,485	$ 0.98

There were options to purchase 5,966,026, 6,069,010 and 3,858,933 shares of common stock that were exercisable at December 31, 2011 and 2012 and June 30, 2013, respectively, at a weighted-average exercise price of $1.06, $0.87 and $1.01, respectively.

Information about outstanding stock options is as follows:

	As of December 31, 2012			As of June 30, 2013		
Exercise Price Per Share	Options Outstanding	Weighted-Average Remaining Contractual Life (in years)	Options Exercisable	Options Outstanding	Weighted-Average Remaining Contractual Life (in years)	Options Exercisable
$0.10—$0.25	1,925,000	0.71	1,925,000	1,035,000	0.31	1,035,000
$0.60—$1.00	4,113,807	7.55	2,774,739	1,594,214	5.66	1,494,662
$1.60—$2.40	1,369,271	5.80	1,369,271	1,329,271	5.26	1,329,271
$0.10—$2.40	7,408,078	5.45	6,069,010	3,958,485	4.12	3,858,933

Stock Options

Stock-based compensation expense is measured at grant date, based on the fair value of the award, and is recognized as expense over the remaining requisite service period.

AMEDICA CORPORATION

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Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

In March 2012, the board of directors of the Company approved the cancellation of stock options held by active employees and board members with exercise prices above $1.00 per share, and the replacement of such options with options for the same number of shares with 100% immediate vesting on the date of grant. This resulted in additional stock-based compensation expense of approximately $413,000, based on 1,213,975 options originally granted with exercise prices of $1.25, $1.60, $1.85 or $2.40 per share that were cancelled and using updated inputs into the Black-Scholes-Merton valuation model, as follows:

	Inputs Before Modification	Inputs Following Modification
Weighted-average risk-free interest rate	0.50%	1.11%
Weighted-average expected life (in years)	2.50	5.00
Expected dividend yield	0%	0%
Weighted-average expected volatility	65%	71%

Total stock-based compensation expense included in the consolidated statements of comprehensive income was allocated as follows:

	Years Ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
Research and development	$193,000	$ 158,000	$335,000	$ 53,000
General and administrative	450,000	479,000	240,000	34,000
Sales and marketing	114,000	189,000	130,000	4,000
Cost of product revenue	50,000	31,000	1,000	2,000
Capitalized into inventory	—	144,000	19,000	19,000
Total	$807,000	$1,001,000	$725,000	$112,000

During 2011 and 2012, the Company issued options to employees and directors with exercise prices that, at the time of grant, the board of directors determined to approximate the fair value of the Company's common stock, taking into consideration a number of factors including the issuance price of shares of the Company's convertible preferred stock, the preferential terms and conditions of the convertible preferred stock, the status of scientific research and development efforts and associated milestones and the likelihood of achieving a liquidity event for the share of the Company's common stock.

There were no option grants in the six months ended June 30, 2013. The fair value of each employee option grant was estimated on the date of grant using the Black-Scholes-Merton valuation model with the following assumptions:

	Year ended December 31,		Six Months Ended June 30,	
	2011	2012	2012	2013
Weighted average risk-free interest rate	1.32	1.14	1.35	*
Weighted-average expected life (in years)	6.30	5.34	6.39	*
Expected dividend yield	0%	0%	0%	*
Weighted average expected volatility	70%	72%	72%	*
Weighted-average fair value of options granted	$ 0.64	$ 0.55	$ 0.64	*

* There were no stock option grants in the six months ended June 30, 2013

The Company's computation of expected volatility for the year ended December 31, 2011 and 2012 and the six months ended June 30, 2012 is based on an average of the historical volatility of a peer group of similar companies. The Company's computation of expected term utilizes the simplified method in accordance with U.S.

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

GAAP. The risk-free interest rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant. The Company recognizes stock-based compensation expense for the fair values of these awards on a straight-line basis over the requisite service period of each of these awards.

As of December 31, 2012, the weighted-average remaining contractual term for outstanding stock options and for exercisable stock options was 5.45 years and 4.99 years, respectively. The total intrinsic value of options exercised for the year ended December 31, 2012 was $6,375, based on 11,600 shares exercised, an estimated value of common stock during 2012 of $1.00 per share, and an average exercise price of $0.45 per share. Cash received from option exercises for the years ended December 31, 2011 and 2012, was $3,687 and $5,250, respectively. The Company recorded no tax benefit related to options exercised during 2011 and 2012.

As of June 30, 2013, the weighted-average remaining contractual term for outstanding stock options and for exercisable stock options was 4.13 years and 4.09 years, respectively. The total intrinsic value of options exercised for the six months ended June 30, 2013 was $456,000, based on 800,000 shares exercised, an estimated value of common stock during 2013 of $0.68 per share, and an average exercise price of $0.11 per share. No cash was received from option exercises for the six months ended June 30, 2013 due to net exercises. The Company recorded no tax benefit related to options exercised in the six months ended June 30, 2013.

At December 31, 2011 and 2012 and June 30, 2013, total compensation expense related to nonvested options not yet recognized in the financial statements was approximately $1,049,000, $773,000 and $58,000, respectively, and the weighted-average period over which it was expected to be recognized was 3.15 years, 2.82 years and 2.41 years, respectively. The Company recorded no tax benefit related to these options during any periods presented, since the Company currently maintains a full valuation allowance offsetting its deferred tax assets.

Stock Options Granted to Nonemployees

The Company did not grant any options to consultants or nonemployees for services in the years ended December 31, 2011 and 2012 or the six months ended June 30, 2013. The exercise price of all previously granted nonemployee stock options ranges from $1.85 to $0.10 per share.

The following table shows the assumptions used to compute the stock-based compensation expense recognized for nonemployee stock options during the year ended December 31, 2011, the last year in which the expense was recognized, using the Black-Scholes-Merton valuation model:

Weighted-average risk-free interest rate	1.45%
Weighted-average expected term (remaining contractual life in years)	6.33
Expected dividend yield	0%
Weighted-average expected volatility	68.0%

The estimated fair value of options previously granted to consultants that vested during the year ended December 31, 2011, was $19,613 and was charged to research and development expense. There was no such vesting after December 31, 2011.

Option Exchange Program

In February 2013, employees of the Company elected to exchange 2,422,000 stock options for an equal number of RSUs pursuant to a one-time tender offer approved by the board of directors. The RSUs vest solely upon either a change in control or upon the expiration of a lock-up period in connection with an underwritten public offering of shares of the Company’s common stock.

The incremental fair value on the date of the exchange between the original stock options and the RSUs issued will be recognized when vesting conditions are achieved.

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

9. Income Taxes

The following is a reconciliation of the expected statutory federal income tax provision to the actual income tax benefit:

	Years Ended December 31,	
	2011	2012
Income tax benefit at federal statutory rate	(34.0)%	(34.0)%
Income tax benefit at state statutory rate	(4.3)%	(4.3)%
Research and development credits	(1.2)%	(0.7)%
Equity related expenses	11.6%	6.7%
Change in valuation allowance	27.9%	30.3%
	0.0%	(2.0)%

The following table summarizes the Company's tax benefit.

	Years Ended December 31,	
	2011	2012
Current:		
Total Current	$ —	$ —
Deferred:		
State	$	$ (80,667)
Federal	—	(645,333)
Total Benefit	$ —	$(726,000)

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Significant components of the Company's deferred tax assets at December 31 are shown below.

	December 31	
	2011	2012
Deferred tax assets:		
Net operating loss carryforwards	$ 33,025,000	$ 38,610,000
Depreciation	106,000	90,000
Research credits	1,863,000	2,113,000
Other	3,603,000	3,329,000
Total deferred tax assets	38,597,000	44,142,000
Deferred tax liabilities:		
Amortization of intangible assets	(7,623,000)	(1,138,000)
Total deferred tax liabilities	(7,623,000)	(1,138,000)
Net deferred tax assets	30,974,000	43,004,000
Less valuation allowance	(31,834,000)	(43,138,000)
Net deferred tax assets after valuation allowance	$ (860,000)	$ (134,000)

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

At December 31, 2011 and 2012, the Company had net operating loss carryforwards for federal and state income tax purposes of approximately $85,350,095 and $99,076,534, respectively. The federal and state net operating loss carryforwards will expire from 2023 to 2032, unless previously utilized.

The income tax benefit recorded of $726,000 in 2012 relates to the impairment of intangible assets associated with the 2010 US Spine acquisition. In accordance with Section 382 of the Internal Revenue Code, a change in ownership of greater than 50% within a three-year period places an annual limitation on the Company's ability to utilize its existing net operating loss carryforwards. The Company may be subject to these annual limitations and, therefore, unable to fully utilize the net operating loss carryforwards. Additionally, the Company may be unable to fully utilize all of the net operating loss carryforwards associated with the US Spine acquisition, due to certain annual limitations.

During the years ended December 31, 2011 and 2012, the Company recognized no amounts related to tax interest or penalties. The Company is subject to taxation in the United States and various state jurisdictions. The Company currently has no years under examination by any jurisdiction.

A valuation allowance has been established as realization of such deferred tax assets has not met the more likely-than-not threshold requirement. If the Company's judgment changes and it is determined that the Company will be able to realize these deferred tax assets, the tax benefits relating to any reversal of the valuation allowance on deferred tax assets will be accounted for as a reduction to income tax expense. The tax valuation allowance increased by $3,857,000 and $11,304,000 for the years ended December 31, 2011 and 2012, respectively.

10. Commitments and Contingencies

The Company currently leases laboratory, manufacturing and office space and equipment under noncancelable operating leases which provide for rent holidays and escalating payments. Lease incentives, including rent holidays, allowances for tenant improvements and rent escalation provisions, are recorded as deferred rent. Rent under operating leases is recognized on a straight-line basis beginning with lease commencement through the end of the lease term. For each of the years ended December 31, 2011 and 2012, rental expense was $810,489. For each of the six month periods ended June 30, 2012 and 2013, rental expense was $407,512 and $405,244, respectively.

The following table summarizes future minimum rental payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2012:

2013	$ 830,528
2014	855,036
2015	871,857
2016	898,062
2017	925,276
Thereafter	1,932,194
Total	$6,312,953

The Company has entered into consulting and development agreements with some of its advisors, including some surgeon advisors. The Company has agreed to pay some of the surgeon advisors a portion of the net profits attributable to the sale of specific spine products for which the surgeon advisors provided the Company with consulting and related services related to the conceptualization, development, testing, clearance, approval and/or related matters involving implant products. The Company is obligated to pay royalties to as many as 14 different surgeon advisors in connection with the sale of certain of its implant products. These agreements generally continue until the later of (a) ten years from the date of the agreements, and (b) the expiration of the patent rights

AMEDICA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Years ended December 31, 2011 and 2012 (audited) and Six Months ended June 30, 2012 and 2013 (unaudited)

relating to the devices covered by the agreements, when rights have been assigned by the individuals to the Company. The Company paid $656,154 and $852,522 for the years ended December 31, 2011 and 2012, respectively, and $409,471 and $414,246 for the six months ended June 30, 2012 and 2013, respectively, relating to these agreements. At December 31, 2011 and 2012 and June 30, 2013, the Company had accrued $134,373, $246,301 and $244,872 relating to these agreements. Also relating to these agreements, the Company recorded $7,349, $6,465 and $5,943 at December 31, 2011 and 2012 and June 30, 2013, respectively, as prepaid royalties.

The Company has executed agreements with certain executive officers of the Company which, upon the occurrence of certain events related to a change of control, call for payments to the executives up to three times their annual salary and accelerated vesting of previously granted stock options.

From time to time, the Company is subject to various claims and legal proceedings covering matters that arise in the ordinary course of its business activities. Management believes any liability that may ultimately result from the resolution of these matters will not have a material adverse effect on the Company’s consolidated financial position, operating results, or cash flows.

In 2012 and 2013, the Company was a defendant in a lawsuit brought by its former CEO, Ben R. Shappley, in the United States District Court for the District of Utah. Mr. Shappley was seeking to enforce the terms of an employment agreement he had with the Company and alleged that his services were terminated without cause and therefore, that he was entitled to certain benefits under the terms of the employment agreement. He was seeking approximately $1.5 million for his alleged losses plus attorney’s fees incurred in enforcing his rights under the employment agreement. The Company believes that Mr. Shappley was validly terminated for cause under the employment agreement. In April 2013, the parties concluded a five-day bench trial. On September 15, 2013, the court ruled in the Company’s favor on all but one count and awarded Mr. Shappley $13,750, and awarded the Company their attorney’s fees in connection with all other counts. The parties have 30 days from this ruling to appeal.

11. Related-Party Transactions

Gregg R. Honigblum, the Chief Executive Officer of each of Creation Capital LLC (“Creation Capital”) and Creation Capital Advisors LLC (“Creation Advisors”), joined the Company’s board of directors in December 2006 and resigned in September 2013. The Company completed offerings of preferred stock and convertible debt through Creation Capital, as its placement agent, and it received strategic financial advisory services from Creation Advisors.

In conjunction with the Notes issued in 2011 (see Note 8) Creation Capital served as the Company’s placement agent, and was paid $1,049,000 and received warrants exercisable for 1,483,500 shares of common stock at $2.20 per share as commissions. In February 2012, the Company received the final tranche of $5 million in Notes and paid Creation Capital an additional $212,500.

In connection with the conversion of the Notes to shares of Series F convertible preferred stock in December 2012, the Company was obligated to pay Creation Advisors a strategic financial advisory fee of approximately $447,000. Creation Advisors agreed to a payment plan whereby the Company would pay one half of the advisory fee (or approximately $223,500) immediately, and pay the other half in monthly installments over a period of 24 months. Also pursuant to the financial advisor consulting agreement Company entered into with Creation Advisors in June 2012, the Company paid Creation Advisors a strategic financial advisory fee of approximately $107,500 in 2012 related to the new bank financing which closed in December 2012 (see Note 7).

Pursuant to the June 2012 financial advisor consulting agreement with Creation Advisors, the Company agreed to extend the expiration date of all warrants to purchase Series C convertible preferred stock previously issued to Creation Capital from February 2013 to February 2018. In connection with this modification, the Company recorded additional expense of approximately $520,000.

In conjunction with the warrant restructuring and the sale and issuance of other shares of common stock in March 2013, Creation Advisors was paid a strategic financial advisory fee of approximately $250,000 (see Note 7—Common Stock Warrant Liability).

12. 401(k) Plan

Effective June 1, 2004, the Company adopted a defined contribution retirement plan under Section 401(k) of the Internal Revenue Code. The plan covers substantially all employees. Eligible employees may contribute amounts to the plan, via payroll withholdings, subject to certain limitations. The plan permits, but does not require, additional matching contributions to the plan by the Company on behalf of the participants in the plan. The Company incurred $198,543 and $151,498 relating to retirement contributions for the years ended December 31, 2011 and 2012, respectively, and $79,814 and $79,183 for the six months ended June 30, 2012 and 2013, respectively.

13. Subsequent Events

In June and July 2013, the Company amended its senior secured credit facility with a bank and received a waiver for noncompliance with certain debt covenants under our credit facility with General Electric Capital Corporation. The amendment and waivers included the following:

- An extension to receive proceeds from a financing event, as defined, to August 30, 2013, while also extending the start of the principal repayments from July 1, 2013 to January 1, 2014, and consisted of 30 monthly payments of $600,000 each. The financing event occurred on August 30, 2013.
- The removal of the restriction regarding a going concern qualification in the audit opinion.
- Other waivers and consents regarding various administrative matters.

In August and September 2013, the Company issued 4,740,000 shares of Series F convertible preferred stock at $2.00 per share, along with warrants to purchase 2,370,000 shares of common stock at $1.00 per share. The warrants expire five years from the date of issuance.

The Company has evaluated subsequent events through September 23, 2013, to ensure that this submission includes appropriate disclosure of events both recognized in these financial statements, and events which occurred subsequently but were not recognized in the financial statements.

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Shares
Common Stock

PROSPECTUS

, 2013

Stifel

JMP Securities

Neither we nor any of the underwriters have authorized anyone to provide information different from that contained in this prospectus. When you make a decision about whether to invest in our common stock, you should not rely upon any information other than the information in this prospectus. Neither the delivery of this prospectus nor the sale of our common stock means that information contained in this prospectus is correct after the date of this prospectus. This prospectus is not an offer to sell or solicitation of an offer to buy these shares of common stock in any circumstances under which the offer or solicitation is unlawful.

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PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth an itemization of the various costs and expenses, all of which Amedica Corporation ("we," "our" and "us") we will pay, in connection with the issuance and distribution of the securities being registered. All of the amounts shown are estimated except the SEC Registration Fee, The NASDAQ Global Market Listing Fee and the Financial Industry Regulatory Authority, Inc. ("FINRA") Filing Fee.

SEC Registration Fee	$	*
The NASDAQ Global Market Listing Fee		*
FINRA Filing Fee		*
Printing and Engraving Fees		*
Legal Fees and Expenses		*
Accounting Fees and Expenses		*
Blue Sky Fees and Expenses		*
Transfer Agent and Registrar Fees		*
Miscellaneous		*
Total	$	*

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that each person who was or is made a party or is threatened to be made a party to or is otherwise involved (including, without limitation, as a witness) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director, officer, employee or agent of another corporation, or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan, whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by us to the fullest extent authorized by the Delaware General Corporation Law against all expense, liability and loss (including attorneys' fees, judgments, fines, Employee Retirement Insurance Security Act excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered in connection with legal proceedings. These provisions limit the liability of our directors and officers to fullest extent permitted under Delaware law. A director or officer will not receive indemnification if he or she is found not to have acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interest.

Section 145 of the Delaware General Corporation Law permits a corporation to indemnify any director or officer of the corporation against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with any action, suit or proceeding brought by reason of the fact that such person is or was a director or officer of the corporation, if such person acted in good faith and in a manner that he reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, if he or she had no reasonable cause to believe his or her conduct was unlawful. In a derivative action, (i.e., one brought by or on behalf of the corporation), indemnification may be provided only for expenses actually and reasonably incurred by any director or officer in connection with the defense or settlement of such an action or suit if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be provided if such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which the action or suit was brought shall determine that such person is fairly and reasonably entitled to indemnity for such expenses despite such adjudication of liability.

Pursuant to Section 102(b)(7) of the Delaware General Corporation Law, Article Eighth of our amended and restated certificate of incorporation eliminates the liability of a director to us or our stockholders for monetary damages for such a breach of fiduciary duty as a director, except for liabilities arising:

- from any breach of the director's duty of loyalty to us or our stockholders;
- from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law; or
- from any transaction from which the director derived an improper personal benefit.

We carry insurance policies insuring our directors and officers against certain liabilities that they may incur in their capacity as directors and officers. We have entered into indemnification agreements with certain of our executive offices and directors. These agreements, among other things, indemnify and advance expenses to our directors and officers for certain expenses, including attorney's fees, judgments, fines and settlement amounts incurred by any such person in any action or proceeding, including any action by us arising out of such person's services as our director or officer, or any other company or enterprise to which the person provides services at our request. We believe that these provisions and agreements are necessary to attract and retain qualified persons as directors and officers. Prior to the completion of this offering, we plan to enter into agreements to indemnify all of our directors and officers.

Additionally, reference is made to the Underwriting Agreement filed as Exhibit 1.1 hereto, which provides for indemnification by the underwriters of Amedica Corporation, our directors and officers who sign the registration statement and persons who control Amedica Corporation, under certain circumstances.

Item 15. Recent Sales of Unregistered Securities.

Since January 1, 2010, we have sold the following securities that were not registered under the Securities Act.

a) Issuances of Capital Stock and Warrants

The sale and issuance of the securities set forth below were deemed to be exempt from registration under the Securities Act by virtue of Section 4(2) or Rule 506 promulgated under Regulation D promulgated thereunder and Section 3(a)(9). Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act and had adequate access, through employment, business or other relationships, to information about us. No underwriters were involved in these transactions.

- On February 17, 2010, we issued a common stock warrant covering 75,000 shares at a price of $1.75 per share to the University of Utah.
- On March 22, 2010, June 30, 2010 and July 27, 2010, we issued and sold a total of 7,209,273 shares of our Series E convertible preferred stock at a purchase price per share of $2.00 per share to 147 accredited investors for an aggregate purchase price of $14,418,546. In connection with this sale, on September 14, 2010, we issued a warrant to purchase 1,483,500 shares of our Series E convertible preferred stock at an exercise price of $2.20 per share to Creation Capital, LLC.
- On March 22, 2010, in connection with the initial closing of the issuance of our Series E convertible preferred stock, we issued 10,390,463 shares of our Series A-1 convertible preferred stock, 3,299,141 shares of our Series B-1 convertible preferred stock, 4,275,000 shares of our Series C-1 convertible preferred stock and 6,145,667 shares of our Series D-1 convertible preferred stock to 134 of our stockholders in exchange for 10,390,463 shares of our Series A convertible preferred stock, 3,299,141 shares of our Series B convertible preferred stock, 4,275,000 shares of our Series C convertible preferred stock and 6,145,667 shares of our Series D convertible preferred stock, respectively.
- On September 20, 2010, in connection with our acquisition of US Spine, Inc., we issued 6,816,250 shares of our Series E convertible preferred stock to the former stockholders of US Spine and 333,750 shares of our Series E convertible preferred stock to Spinal Management LLC, an advisor to US Spine, as a transaction fee payment.
- On March 4, 2011 and May 9, 2011, we issued aggregate principal amount of $24.8 million of Senior Secured Subordinated 6%/8% Convertible Promissory Notes, or the Senior Secured Notes, and warrants to

purchase an aggregate of 7,443,750 shares of our common stock at an exercise price of $2.00 per share to 85 accredited investors. In connection with the initial closing of this offering, we received a commitment from Hampshire Med Tech Partners, LP to purchase an additional $5.0 million Senior Secured Note by no later than the first anniversary of the initial closing upon thirty days if its receipt of our notice to fund. Pursuant to this commitment, we issued an additional $5.0 million Senior Secured Note in February 2012. In connection with this offering, on May 9, 2011, we issued a warrant to purchase 1,483,500 shares of our common stock at an exercise price of $2.20 per share to Creation Capital, LLC.

- On March 17, 2011, we issued a warrant to purchase 25,000 shares of our common stock to Zions First National Bank at an exercise price of $2.00 per share.
- On May 10, 2012, in connection with entering into a settlement agreement dated May 1, 2010, we issued (a) 842,438 shares of our Series E convertible preferred stock to the former stockholders of US Spine, of which 39,249 shares were issued to MSK and its affiliates, and (b) 2,557,562 shares of our Series C convertible preferred stock to MSK. Spinal Management LLC also received a commission that was paid in 42,122 and 127,878 of the shares of our Series E convertible preferred stock and Series C convertible preferred stock, respectively, issued under the settlement agreement.
- On December 17, 2012, in connection with entering into a commercial lending transaction, we issued warrants to purchase a total of 270,000 shares of our Series F convertible preferred stock at an exercise price of $2.00 per share to two of our institutional lenders.
- On December 17, 2012, we issued 14,887,500 shares of our Series F convertible preferred stock upon conversion of all of the outstanding Senior Secured Notes.
- In March 2013, we issued an aggregate of 4,601,177 shares of our common stock to 33 accredited investors upon exercise of warrants and the sale of additional shares of our common stock to other investors at $0.68 per share for an aggregate purchase price of $3,128,802. We also issued each investor purchasing shares of our common stock through the exercise of warrants new warrants to purchase an aggregate of 2,630,589 shares of our common stock at an exercise price of $0.68 per share.
- On August 30, 2013 and September 20, 2013, we issued and sold a total of 94.8 units, each unit consisting of 50,000 shares of our Series F convertible preferred stock and a warrant to acquire 25,000 shares of our common stock at an exercise price of $1.00 per share, to 45 accredited investors at $100,000 per unit for an aggregate purchase price of $9,480,000. The purchase of these units resulted in our issuance of 4,740,000 shares of our Series F convertible preferred stock and warrants to purchase 2,370,000 shares of our common stock.

(b) Certain Equity Grants and Exercises of Stock Options

From January 1, 2013 through September 23, 2013, we granted no stock options. During this period, we granted a total of 3,423,000 RSUs. During the same period, 960,000 options to purchase shares of common stock were exercised.

In 2012, we granted options to purchase a total of 2,331,308 shares of our common stock to participants in the 2003 Plan, at a weighted-average price of $1.00 per share. In 2012, we issued 11,600 shares of common stock upon the exercise of options to purchase such shares of common stock at a weighted-average price of $0.45 per share.

In 2011, we granted options to purchase a total of 1,242,600 shares of our common stock to 2003 Plan participants, at a weighted-average price of $1.00 per share. In 2011, we issued 17,188 shares of common stock upon the exercise of options to purchase such shares of common stock at a weighted-average price of $0.21 per share.

In 2010, we granted options to purchase a total of 2,071,500 shares of our common stock to 2003 Plan participants, at a weighted-average price of $1.02 per share. In 2010, we issued 25,900 shares of common stock upon the exercise of options to purchase such shares of common stock at a weighted-average price of $0.32 per share.

Option grants, RSU grants and the issuances of common stock upon exercise of such options were exempt pursuant to Rule 701 and Section 4(2) of the Securities Act of 1933.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

Exhibit Number	Description of Exhibit
1.1*	Form of Underwriting Agreement
3.1	Restated Certificate of Incorporation, as amended and as currently in effect
3.2*	Form of Amended and Restated Certificate of Incorporation, to become effective upon the closing of this offering
3.3	Amended and Restated By-Laws, as currently in effect
3.4*	Form of Amended and Restated By-Laws, to become effective upon the closing of this offering
4.1	Form of Common Stock Certificate
4.2*	Fifth Amended and Restated Registration Rights Agreement by and among the Registrant and certain of its stockholders, dated as of July 27, 2010
4.3	Warrant Agreement by and between the Registrant and Creation Capital LLC, dated as of March 1, 2004
4.4	Warrant Agreement by and between the Registrant and Creation Capital LLC, dated as of October 25, 2004
4.5	Warrant Agreement by and between the Registrant and Creation Capital LLC, dated as of February 24, 2006
4.6	Series D Warrant Agreement by and between the Registrant and Creation Capital LLC, dated as of April 27, 2007
4.7	Common Stock Warrant Agreement by and between the Registrant and Creation Capital LLC, dated as of April 30, 2008
4.8	Series E Warrant Agreement by and between the Registrant and Creation Capital LLC, dated as of September 14, 2010
4.9*	Warrant to Purchase Shares of Common Stock of the Registrant by and between the Registrant and Creation Capital LLC, dated as of May 9, 2011
4.10	Warrant to Purchase 156,978 Shares of Series F Convertible Preferred Stock by and between the Registrant and GE Capital Equity Investments, Inc., dated as of December 17, 2012
4.11	Warrant to Purchase 113,022 Shares of Series F Convertible Preferred Stock by and between the Registrant and Zions First National Bank, dated as of December 17, 2012
4.12	Form of Warrant to Purchase Shares of Common Stock of the Registrant issued on March 4, 2011 and May 9, 2011
4.13	Form of Amendment to Warrant to Purchase Shares of Common Stock of the Registrant, dated as of December 18, 2012
4.14	Form of Amendment No. 2 to Warrant to Purchase Shares of Common Stock of the Registrant, dated as of February 1, 2013
4.15	Warrant to Purchase Shares of Common Stock of the Registrant by and between the Registrant and the University of Utah, Research Foundation, dated as of February 17, 2010
4.16	Form of Warrant to Purchase Shares of Common Stock of the Registrant, issued on April 18, 2011, November 15, 2011, November 16, 2011, February 22, 2012, February 29, 2012 and March 7, 2012
4.17	Form of Warrant to Purchase Shares of Common Stock of the Registrant, dated as of August 30, 2013

Exhibit Number	Description of Exhibit
4.18*	Form of Warrant to Purchase Shares of Common Stock of the Registrant issued to Zions First National Bank, issued on March 17, 2011
5.1*	Opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., counsel to Amedica Corporation, with respect to the legality of the securities being registered
10.1	Loan and Security Agreement by and among the Registrant, General Electric Capital Corporation and the financial institutions party thereto, dated as of December 17, 2012
10.2	First Amendment to Loan and Security Agreement by and among the Registrant, General Electric Capital Corporation and US Spine, Inc., dated as of June 28, 2013
10.3	Second Amendment and Waiver to Loan and Security Agreement by and among the Registrant, General Electric Capital Corporation and US Spine, Inc., dated as of July 31, 2013
10.4	Third Amendment and Waiver to Loan and Security Agreement by and among the Registrant, General Electric Capital Corporation and US Spine, Inc., dated as of August 15, 2013
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10.6	Intellectual Property Security Agreement by the Registrant in favor of General Electric Capital Corporation, dated as of December 17, 2012
10.7*@	Joint Development and License Agreement by and between the Registrant and Orthopaedic Synergy, Inc., dated as of February 8, 2010
10.8*@	Distribution Agreement by and between the Registrant and Orthopaedic Synergy, Inc., dated as of February 22, 2010, and First Amendment and Addendum thereto, dated as of November 1, 2012
10.9*@	Patent Acquisition Agreement by and between the Registrant and Dytech Corporation Ltd., dated as of July 12, 2012
10.10	Lease Agreement by and between the Registrant and Centrepointe Properties, LLC, dated as of April 21, 2009
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10.17*+	Severance Agreement by and between the Registrant and Eric K. Olson, dated as of February 3, 2012
10.18*+	Severance Agreement by and between the Registrant and Gordon G. Esplin, dated as of November 29, 2012
10.19+	Amedica Corporation 2003 Stock Option Plan
10.20+	Form of 2003 Non-Qualified Stock Option Agreement and Notice of Exercise of Non-Qualified Stock Option thereunder

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10.24*+	Form of 2012 Restricted Stock Unit Agreement
10.25*+	Form of Indemnification Agreement
21.1	List of Subsidiaries of the Registrant
23.1*	Consent of Ernst & Young LLP
23.2*	Consent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (see Exhibit 5.1)
24.1	Power of Attorney (included on signature page)
*	To be filed by amendment
+	Management contract or compensatory plan or arrangement.
@	Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment and then filed separately with the SEC.

(b) Financial Statement Schedules

Financial Statement Schedules are omitted because the information is included in our financial statements or notes to those financial statements.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the provisions described under Item 14 above, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes:

(1) That for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) That for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Salt Lake City, Utah on , 2013.

AMEDICA CORPORATION

By: ______________________________

Eric K. Olson
Chief Executive Officer and President

POWER OF ATTORNEY

We, the undersigned directors and officers of Amedica Corporation (the "Company"), hereby severally constitute and appoint Eric K. Olson and Kevin Ontiveros, and each of them singly, our true and lawful attorneys, with full power to them, and to each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-1 filed herewith, and any and all pre-effective and post-effective amendments to said registration statement, and any registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, in connection with the registration under the Securities Act of 1933, as amended, of equity securities of the Company, and to file or cause to be filed the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as each of us might or could do in person, and hereby ratifying and confirming all that said attorneys, and each of them, or their substitute or substitutes, shall do or cause to be done by virtue of this Power of Attorney.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities held on the dates indicated.

Signature	Title	Date
Eric K. Olson	Chief Executive Officer, President and Director (principal executive officer)	, 2013
W. Karl Farnsworth	Chief Financial Officer (principal financial and accounting officer)	, 2013
Max E. Link, Ph.D.	Chairman of the Board of Directors	, 2013
B. Sonny Bal, M.D.	Director	, 2013
Jay M. Moyes	Director	, 2013
David W. Truetzel, M.D.	Director	, 2013

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23.2*	Consent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (see Exhibit 5.1)
24.1	Power of Attorney (included on signature page)

* To be filed by amendment

\+ Management contract or compensatory plan or arrangement.

@ Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment and then filed separately with the SEC.

Exhibit 3.1

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Amedica Corporation, a Delaware corporation, hereby certifies as follows:

1. The name of the corporation is Amedica Corporation (the "Corporation"). The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp.

2. The Certificate of Incorporation of the Corporation filed on December 10, 1996, as amended, is hereby restated.

3. This Restated Certificate of Incorporation restates and integrates the provisions of the Certificate of Incorporation of said Corporation and has been duly adopted in accordance with the provisions of Section 245 of the General Corporation Law of the State of Delaware.

4. The text of the Certificate of Incorporation is hereby restated to read in full as follows:

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION

FIRST: The name of the corporation (hereinafter called the "Corporation") is

AMEDICA CORPORATION

SECOND: The address, including street, number, city, and county, of the registered office of the Corporation in the State of Delaware is 1209 N. Orange Street, City of Wilmington, Delaware, County of New Castle; and the name of the registered agent of the Corporation in the State of Delaware is The Corporation Trust Company.

THIRD: The nature of the business to be conducted and the purposes of the Corporation are:

To purchase or otherwise acquire, invest in, own, lease, mortgage, pledge, sell, assign and transfer or otherwise dispose of, trade and deal in and with real property and personal property of every kind, class and description (including, without limitation, goods, wares and merchandise of every kind, class and description), to manufacture goods, wares and merchandise of every kind, class and description, both on its own account and for others;

To make and perform agreements and contracts of every kind and description; and

Generally to engage in any lawful act or activity or carry on any business for which corporations may be organized under the Delaware General Corporation Law or any successor statute.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is One Hundred Million (100,000,000), consisting of (i) 60,000,000 shares of Common Stock, $0.01 par value per share (the "Common Stock"), and 40,000,000 shares of Preferred Stock, $0.01 par value per share (the "Preferred Stock").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. Common Stock.

1. General. The voting, dividend and liquidation and other rights of the holders of the Common Stock are expressly made subject to and qualified by the rights of the holders of any series of Preferred Stock.

2. Voting Rights. The holders of record of the Common Stock are entitled to one vote per share on all matters to be voted on by the Corporation's stockholders, subject to any voting rights provided to holders of then outstanding Preferred Stock.

3. Dividends. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor if, as and when determined by the Board of Directors in their sole discretion, subject to provisions of law, any provision of this Certificate of Incorporation, as amended from time to time, and subject to the relative rights and preferences of any shares of Preferred Stock authorized, issued and outstanding hereunder.

4. Liquidation. Upon the dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, holders of record of the Common Stock will be entitled to receive pro rata all assets of the Corporation available for distribution to its stockholders, subject, however, to the liquidation rights of the holders of Preferred Stock authorized, issued and outstanding hereunder.

B. Undesignated Shares.

Except as otherwise set forth herein, the Board of Directors is expressly granted the authority to fix by resolution the designations, powers, preferences, rights, qualifications, limitations, restrictions, and the relative, participating, optional or other special rights in respect of each share of Preferred Stock, including the number of shares of any series, which are not fixed by this Certificate of Incorporation, as follows:

(a) The Board of Directors is hereby authorized from time to time to provide by resolution for the issuance of shares of Preferred Stock, not otherwise designated herein, in one or more series not exceeding the aggregate number of shares of Preferred Stock authorized by this Certificate of Incorporation, as amended from time to time, and to determine with respect to each such series the number of shares in such series, designations, powers, preferences, qualifications, limitations, restrictions and the relative, participating, optional or other special rights, if any, pertaining thereto including, without limiting the generality of the foregoing, the voting rights (if any) pertaining to shares of Preferred Stock of any series (which may be one vote per share or a fraction or multiple of a vote per share, and which may be applicable generally or only upon the happening and continuance of stated events or conditions), the rate of dividend (if any) to which holders of Preferred Stock of any series may be entitled (which may be cumulative or noncumulative), the rights (if any) of holders of Preferred Stock of any series in the event of liquidation, dissolution or winding up of the affairs of the Corporation, and the rights (if any) of holders of Preferred Stock of any series to convert or exchange such shares of Preferred Stock of such series for shares of any other class of capital stock or to have such shares redeemed or repurchased by the Corporation (including the determination of the price or prices or the rate or rates applicable to such rights to convert, exchange, redeem or repurchase and the adjustment thereof, the time or times during which the right to convert, exchange, redeem or repurchase shall be applicable and the time or times during which a particular price or rate shall be applicable); and

(b) Before the Corporation shall issue any shares of Preferred Stock of any series, a certificate (each a “Designation Certificate”) setting forth a copy of the resolution or resolutions of the Board of Directors, fixing the voting and other powers, designations, preferences, qualifications, limitations, restrictions and the relative, participating, optional or other special rights, if any, pertaining to the shares of Preferred Stock of such series and the number of shares of Preferred Stock of such series authorized by the Board of Directors to be issued shall be executed, acknowledged, filed and recorded to the extent and in the manner prescribed by the laws of the State of Delaware.

C. Preferred Stock. Sixteen Million One Hundred Fifty Thousand (16,150,000) shares of authorized and unissued Preferred Stock of the Corporation are hereby designated Series A Convertible Preferred Stock (“Series A Preferred Stock”), and Six Million (6,000,000) shares of authorized and unissued Preferred Stock of the Corporation are hereby designated Series B Convertible Preferred Stock (“Series B Preferred Stock”), each with the following powers, preferences, rights, qualifications, limitations, restrictions, and relative, participating, optional or other special rights.

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series A Preferred Stock and Series B Preferred stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, pari passu with each other and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock and Series B Preferred Stock, an amount equal to the original purchase price per share of Series A Preferred Stock and Series B Preferred Stock, as the case may be (which amount shall be subject to equitable adjustment as applicable whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series A Preferred Stock or Series B Preferred Stock and, as so adjusted from time to time, is hereinafter each referred to as the "Base Liquidation Price" and individually the "Series A Base Liquidation Price" and "Series B Base Liquidation Price", respectively), plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series A Preferred Stock and Series B Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock and Series B Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock and Series B Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock and Series B Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; provided, however, that the holders of at least a majority of the outstanding shares of the Series A Preferred Stock and Series B Preferred Stock, respectively, upon the occurrence of a Reorganization shall have the option to elect the benefits of Subsection 2(d)(vi) hereof for the Series A Preferred Stock and Series B Preferred Stock, respectively, in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series A Preferred Stock and Series B Preferred Stock, respectively, each series voting as a separate class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(b), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series A Preferred Stock and Series B Preferred Stock shall have conversion rights as follows (the “Conversion Rights”):

(a) Right to Convert; Conversion Price. Each share of Series A Preferred Stock and Series B Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the dale of issuance of such share, at the office of the Corporation or any transfer agent for the Series A Preferred Stock or the Series B Preferred Stock, into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established by dividing the original purchase price per share for such series of Preferred Stock by the applicable Conversion Price for such series, as defined below (each a “Conversion Ratio”). The initial Conversion Ratio for the Series A Preferred Stock shall be 1:1 (the “Series A Conversion Ratio”). The initial Conversion Ratio for the Series B Preferred Stock shall be 1:1 (the “Series B Conversion Ratio”). The conversion price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series A Preferred Stock (the “Series A Conversion Price”) shall initially be $0.60. The conversion price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series B Preferred Stock (the “Series B Conversion Price”) shall initially be $1.20. Each of the Series A Conversion Price and Series B Conversion Price is referred to herein as a “Conversion Price.” Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which either Series A Preferred Stock or Series B Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series A Preferred Stock or Series B Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series A Preferred Stock or Series B Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series A Preferred Stock or Series B Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective and applicable Conversion Price. The Corporation shall, as soon as

practicable thereafter, issue and deliver at such office to such holder of Series A Preferred Stock or Series B Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the close of business on the dace of such surrender of the shares of Series A Preferred Stock or Series B Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series A Preferred Stock or Series B Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price for such series.

(c) Automatic Conversion.

(i) Each share of Series A Preferred Stock and Series B Preferred Stock shall automatically be converted into shares of Common Stock at the then effective and applicable Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price for such stock (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "Qualified Initial Public Offering").

(ii) Upon the occurrence of an event specified in Section 2(c)(i) hereof, all shares of Series A Preferred Stock and Series B Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series A Preferred Stock or the Series B Preferred Stock; provided, however, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series A Preferred Stock or Series B Preferred Stock were convertible unless the certificate or certificates representing such shares of Series A Preferred Stock or Series B Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series A Preferred Stock or Series B Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series A Preferred Stock and Series B Preferred Stock, each holder of Series A Preferred Stock and Series B Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series A

Preferred Stock or the Series B Preferred Stock at the office of the Corporation or of the transfer agent for the Series A Preferred Stock or Series B Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series A Preferred Stock or Series B Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series A Preferred Stock or Series B Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective and applicable Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "Option" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "Original Issue Date" shall mean (i) the date on which shares of Series A Preferred Stock were first issued (the "Series A Original Issue Date") and (ii) the date on which shares of Series B Preferred Stock were first issued (the "Series B Original Issue Date"), each an "Original Issue Date".

(C) "Convertible Securities" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series A Preferred Stock or Series B Preferred Stock.

(D) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the applicable Original Issue Date, other than the following (collectively, the "Excluded Shares"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or upon conversion of, shares of Series A Preferred Stock or Series B Preferred Stock; or

(II) options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue

any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Series A Conversion Price or Series B Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Series A Conversion Price or Series B Conversion Price, as the case may be, shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the adjusted Series A Conversion Price or Series B Conversion Price, as the case may be, computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the adjusted Series A Conversion Price or Series B Conversion Price, as the case

may be, computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the adjusted Series A Conversion Price or Series B Conversion Price, as the case may be, to an amount which exceeds the lower of (a) such Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Series A Conversion Price or Series B

Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Series A Conversion Price or Series B Conversion Price, as the case may be, which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter such Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(A) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(B) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Series A Conversion Price or Series B Conversion Price, as the case may be, which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter such Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii) in a stock dividend, stock distribution or subdivision, the Series A Conversion Price and Series B Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Series A Conversion Price and Series B Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series A Preferred Stock or Series B Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or

parent, if any) immediately after the transaction (a "Reorganization"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series A Preferred Stock and Series B Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series A Preferred Stock and Series B Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series A Preferred Stock or the Series B Preferred Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series A Preferred Stock or the Series B Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series B Preferred at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series A Preferred Stock and Series B Preferred Stock shall have the option to elect, by the consent of at least a majority of each of the then outstanding Series A Preferred Stock and Series B Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series A Preferred Stock and Series B Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series A Preferred Stock and Series B Preferred Stock against impairment

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series A Preferred Stock and/or Series B Preferred Stock, as applicable, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series A Preferred Stock and/or

Series B Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series A Preferred Stock and/or Series B Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series A Preferred Stock and Series B Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series A Preferred Stock and/or Series B Preferred Stock; provided, however, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series A Preferred Stock or Series B Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series A Preferred Stock and/or Series B Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series A Preferred Stock and/or Series B Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series A Preferred Stock and/or Series B Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Incorporation, the holders of Series A Preferred Stock, the holders of Series B Preferred Stock and the holders of Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); provided that the holders of the Series A Preferred Stock and Series B Preferred Stock shall each vote as a separate class with respect to any matter or proposed action as to which applicable law or this Certificate of Incorporation require the vote, consent, or approval of the holders of the Series A Preferred Stock or the holders of the Series B Preferred Stock.

(b)

(i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series A Preferred Stock and Series B Preferred Stock shall have that number of votes per share of Series A Preferred Stock or Series B Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series A Preferred Stock or Series B Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) Unless there is an affirmative vote of at least 50% of the outstanding shares of each of the Series A Preferred Stock and the Series B Preferred Stock, each such series voting separately as a class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series A Preferred Stock and the Series B Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000; or

(iv) any amendment of the Corporation's Certificate of Incorporation that would adversely change or alter any of the preferences, powers, rights or privileges of the Series A Preferred Stock or the Series B Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series A Preferred Stock and Series B Preferred Stock shall be entitled to receive such dividends in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series A Preferred Stock and Series B Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series A Preferred Stock and Series B Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series A Preferred Stock and Series B Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series A Preferred Stock and Series B Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series A Preferred Stock or Series B Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series A Preferred Stock or Series B Preferred Stock held by each holder thereof would have received if such Series A Preferred Stock or Series B Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series A Preferred Stock and Series B Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall

declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series A Preferred Stock and Series B Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series A Preferred Stock or Series B Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series A Preferred Stock or Series B Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series A Preferred Stock or Series B Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the applicable Base Liquidation Price for the Series A Preferred Stock and Series B Preferred Stock, respectively, then in effect

5. Covenants.

The Corporation shall not undertake any amendment of the Corporation's Certificate of Incorporation if such amendment would alter or change the powers, preferences or special rights of the Series A Preferred Stock or Series B Preferred Stock so as to affect them adversely; provided that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the Series A Preferred Stock or Series B Preferred Stock. The holders of at least a majority of the number of shares of the Series A Preferred Stock or Series B Preferred Stock, respectively, outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series A Preferred Stock or Series B Preferred Stock, respectively, or may waive the application thereof in any particular instance.

6. No Reissuance. No share or shares of Series A Preferred Stock or Series B Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series A Preferred Stock or Series B Preferred Stock shall be vested in the Common Stock.

FIFTH: The Corporation is to have perpetual existence.

SIXTH: For the management of the business and for the conduct of the affairs of the Corporation, and in further definition and not in limitation of the powers of the Corporation and of its directors and of its stockholders or any class thereof, as the case may be, conferred by the State of Delaware, it is further provided that:

A. The management of the business and the conduct of the affairs of the Corporation shall be vested in its Board of Directors. The number of directors which shall constitute the whole Board of Directors shall be fixed by, or in the manner provided in, the By-Laws. The phrase "whole Board" and the phrase "total number of directors" shall be deemed to have the same meaning, to wit, the total number of directors which the Corporation would have if there were no vacancies. No election of directors need be by written ballot.

B. After the original or other By-Laws of the Corporation have been adopted, amended or repealed, as the case may be, in accordance with the provisions of Section 109 of the General Corporation Law of the State of Delaware, and, after the Corporation has received any payment for any of its stock, the power to adopt, amend, or repeal the By-Laws of the Corporation may be exercised by the Board of Directors of the Corporation.

C. The books of the Corporation may be kept at such place within or without the State of Delaware as the By-Laws of the Corporation may provide or as may be designated from time to time by the Board of Directors of the Corporation.

SEVENTH: The Corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented from time to time, indemnify and advance expenses to, (i) its directors and officers, and (ii) any person who at the request of the Corporation is or was serving as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, from and against any and all of the expenses, liabilities, or other matters referred to in or covered by said section as amended or supplemented (or any successor), provided, however, that except with respect to proceedings to enforce rights to indemnification, the By-Laws of the Corporation may provide that the Corporation shall indemnify any director, officer or such person in connection with a proceeding (or part thereof) initiated by such director, officer or such person only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation. The Corporation, by action of its Board of Directors, may provide indemnification or advance expenses to employees and agents of the Corporation or other persons only on such terms and conditions and to the extent determined by the Board of Directors in its sole and absolute discretion. The indemnification provided for herein shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any By-Law, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in their official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

EIGHTH: No director of this Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director except to the extent that exemption from liability or limitation thereof is not permitted under the General Corporation Law of the State of Delaware as in effect at the time such liability or limitation thereof is determined. No amendment, modification or repeal of this Article shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment, modification or repeal. If the General Corporation Law of the State of Delaware is amended

after approval by the stockholders of this Article to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended.

NINTH: Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for this Corporation under the provisions of Section 291 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under the provisions of Section 279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths (3/4) in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this Corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this Corporation, as the case may be, and also on this Corporation.

TENTH: From time to time any of the provisions of this Certificate of Incorporation may be amended, altered or repealed, and other provisions authorized by the laws of the State of Delaware at the time in force may be added or inserted in the manner and at the time prescribed by said laws, and all rights at any time conferred upon the stockholders of the Corporation by this Certificate of Incorporation are granted subject to the provisions of this Article.

IN WITNESS WHEREOF, the Corporation has caused this Restated Certificate of Incorporation, which restates, integrates and amends the provisions of the Certificate of Incorporation of the Corporation to be signed this 25th day of October, 2004.

/s/ Ashok Khandkar

Ashok Khandkar
President

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES C CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "Corporation"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated February 8, 2006, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 9,700,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Certificate of Incorporation, as amended, of the Corporation, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "Preferred Stock"), consisting of 9,700,000 shares of the authorized unissued Preferred Stock, as Series C Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series C Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series C Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series C Convertible Preferred Stock, $0.01 par value per share (the "Series C Preferred Stock"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series C Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, pari passu with the holders of the

Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the "Series A Preferred Stock") and Series B Convertible Preferred Stock, $0.01 par value per share the "Series B Preferred Stock") and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock, an amount equal to the original purchase price per share of Series C Preferred Stock (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series C Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the "Base Liquidation Price") plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series C Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; provided, however, that the holders of at least a majority of the outstanding shares of the Series C Preferred Stock upon the occurrence of a Reorganization shall have the option to elect the benefits of Subsection 2(d)(vi) hereof for the Series C Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series C Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series C Preferred Stock shall have conversion rights as follows (the “Conversion Rights”):

(a) Right to Convert; Conversion Price. Each share of Series C Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series C Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series C Preferred Stock of $2.00 by the applicable Conversion Price for such series, as defined below (the “Conversion Ratio”). The initial Conversion Ratio shall be 1:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series C Preferred Stock (the “Conversion Price”) shall initially be $2.00. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series C Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series C Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series C Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series C Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series C Preferred Stock, or to such holder’s nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Series C Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series C Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series C Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a “Qualified Initial Public Offering”).

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series C Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series C Preferred Stock; provided, however, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series C Preferred Stock were convertible unless the certificate or certificates representing such shares of Series C Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series C Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series C Preferred Stock, each holder of Series C Preferred Stock shall surrender the certificate or certificates representing such holder’s shares of Series C Preferred Stock at the office of the Corporation or of the transfer agent for the Series C Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder’s name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series C Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series C Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "Option" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "Original Issue Date" shall mean the date on which shares of Series C Preferred Stock were first issued.

(C) "Convertible Securities" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series C Preferred Stock.

(D) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "Excluded Shares"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or upon conversion of, shares of Series A Preferred Stock, Series B Preferred Stock or Series C Preferred Stock; or

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series C Preferred Stock is convertible, to a price

(calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as

consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "Reorganization"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series C Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series C Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series C Preferred Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series C Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series C Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series C Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series C Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series C Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series C Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series C Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series C Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series C Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series C Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series C Preferred Stock; provided, however, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series C Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series C Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series C Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series C Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, the holders of Series B Preferred Stock, the holders of Series C Preferred Stock and the holders of Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); provided that the holders of the Series C Preferred Stock shall vote as a separate class with respect to any matter or proposed action as to which applicable law or this Certificate of Designation require the vote, consent, or approval of the holders of the Series C Preferred Stock.

(b)

(i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series C Preferred Stock shall have that number of votes per share of Series C Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series C Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) Unless there is an affirmative vote of at least 50% of the outstanding shares of Series C Preferred Stock, voting separately as a class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series C Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000; or

(iv) any amendment of the Corporation's Certificate of Incorporation that would adversely change or alter any of the preferences, powers, rights or privileges of the Series C Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series C Preferred Stock shall be entitled to receive such dividends pari passu with the holders of Series A Preferred Stock and the Series B Preferred Stock and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series C Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series C Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series C Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the

same time a dividend upon the then outstanding shares of the Series C Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series C Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series C Preferred Stock held by each holder thereof would have received if such Series C Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series C Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series C Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series C Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series C Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series C Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants.

The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Certificate of Incorporation if such amendment would alter or change the powers, preferences or special rights of the Series C Preferred Stock so as to affect them adversely; provided that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the Series C Preferred Stock. The holders of at least a majority of the number of shares of Series C Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series B Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series C Preferred Stock. No share or shares of Series C Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series C Preferred Stock shall be vested in the Common Stock.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 24th day of February, 2006.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Name: Ashok Khandkar
Title: Chief Executive Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES D CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated April 13, 2007, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 5,600,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation, as amended, of the Corporation, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 5,600,000 shares of the authorized unissued Preferred Stock, as Series D Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series D Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series D Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series D Convertible Preferred Stock, $0.01 par value per share (the "***Series D Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series D Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, pari passu with the holders of the

Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the "***Series A Preferred Stock***"), Series B Convertible Preferred Stock, $0.01 par value per share (the "***Series B Preferred Stock***") and Series C Convertible Preferred Stock, $0.01 par value per share (the "***Series C Preferred Stock***") and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock, an amount equal to the original purchase price per share of Series D Preferred Stock (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series D Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the "***Base Liquidation Price***") plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series D Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; provided, however, that title holders of at least a majority of the outstanding shares of the Series D Preferred Stock upon the occurrence of a Reorganization shall have the option to elect the benefits of Subsection 2(d)(vi) hereof for the Series D Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series D Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of

fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series D Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert; Conversion Price. Each share of Series D Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series D Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series D Preferred Stock of $3.00 by the applicable Conversion Price for such series, as defined below (the "***Conversion Ratio***"). The initial Conversion Ratio shall be 1:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series D Preferred Stock (the "***Conversion Price***") shall initially be $3.00. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series D Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series D Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series D Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series D Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series D Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Series D Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series D Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series D Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "***Qualified Initial Public Offering***").

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series D Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series D Preferred Stock; provided, however, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series D Preferred Stock were convertible unless the certificate or certificates representing such shares of Series D Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series D Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series D Preferred Stock, each holder of Series D Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series D Preferred Stock at the office of the Corporation or of the transfer agent for the Series D Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series D Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series D Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series C Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series D Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or upon conversion of, shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock; or

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series D Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the

number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the

Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "Reorganization"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series D Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series D Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series D Preferred Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series D Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series D Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series D Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series D Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series D Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series D Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series D Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series D Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series D Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series D Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series D Preferred Stock; provided, however, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series D Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series D Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series D Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series D Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, the holders of Series B Preferred Stock, the holders of Series C Preferred Stock, the holders of Series D Preferred Stock and the holders of Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); provided that the holders of the Series D Preferred Stock shall vote as a separate class with respect to any matter or proposed action as to which applicable law or this Certificate of Designation require the vote, consent, or approval of the holders of the Series D Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series D Preferred Stock shall have that number of votes per share of Series D Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series D Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) Unless there is an affirmative vote of at least a majority of the then outstanding shares of Series D Preferred Stock, voting separately as a class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series D Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000; or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series D Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series D Preferred Stock shall be entitled to receive such dividends pari passu with the holders of Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series D Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series D Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series D Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series D Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series D Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series D Preferred Stock held by each holder thereof would have received if such Series D Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series D Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series D Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series D Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series D Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series D Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants.

The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of the holders of the shares of Series D Preferred Stock so as to affect them adversely; provided that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series D Preferred Stock. The holders of at least a majority of the number of shares of Series D Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series D Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series C Preferred Stock. No share or shares of Series D Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series D Preferred Stock shall be vested in the Common Stock.

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 16th day of April, 2007.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Name: Ashok Khandkar
Title: Chief Executive Officer

CERTIFICATE OF AMENDMENT

TO

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Amedica Corporation, a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Amedica Corporation (the "Corporation"). The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004.

2. The Restated Certificate of Incorporation of the Corporation, is hereby amended by inserting the following new paragraph immediately following the first sentence of Article FOURTH thereof:

> "Upon the effectiveness of this Certificate of Amendment to the Certificate of Incorporation, every Three and Eighty-Two One Hundredths (3.82) issued and outstanding shares of Common Stock of the Corporation shall be changed, combined and reclassified into one (1) whole share of Common Stock, which shares shall be fully paid and nonassessable shares of Common Stock of the Corporation; provided, however, that in lieu of fractional interests in shares of Common Stock to which any stockholder would otherwise be entitled pursuant hereto (taking into account all shares of Common Stock owned by such stockholder), such stockholder shall be entitled to receive a cash payment equal to the fair value of one share of Common Stock as determined by the Board of Directors of the Corporation multiplied by such fraction.

3. Pursuant to Section 228(a) of the General Corporation Law of the State of Delaware, the holders of outstanding shares of the Corporation having no less than the minimum number of votes that would be necessary to authorize or take such actions at a meeting at which all shares entitled to vote thereon were present and voted, consented to the adoption of the aforesaid amendments without a meeting, without a vote and without prior notice and that written notice of the taking of such actions was given in accordance with Section 228(e) of the General Corporation Law of the State of Delaware.

4. This Certificate of Amendment to Restated Certificate of Incorporation, as filed under Sections 242 of the General Corporation Law of the State of Delaware, has been duly authorized in accordance thereof.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to Restated Certificate of Incorporation be signed by its duly authorized officer this 26th day of July, 2007.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Its: CEO
Ashok Khandkar
Chief Executive Officer

CERTIFICATE OF AMENDMENT

TO

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Amedica Corporation, a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Amedica Corporation (the "Corporation"). The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004.

2. The Restated Certificate of Incorporation of the Corporation is hereby amended, upon the effectiveness of this Certificate of Amendment, by deleting the first and second sentences of Article FOURTH thereof and inserting the following three sentences in place thereof:

> "The total number of shares of all classes of stock which the Corporation shall have authority to issue is One Hundred Forty Million (140,000,000), consisting of (i) Eighty Million (80,000,000) shares of Common Stock, $0.01 par value per share (the "Common Stock"), and (ii) Sixty Million (60,000,000) shares of Preferred Stock, $0.01 par value per share (the "Preferred Stock").
>
> "Effective on July 27, 2007, every Three and Eighty-Two One Hundredths (3.82) issued and outstanding shares of Common Stock of the Corporation shall be changed, combined and reclassified into one (1) whole share of Common Stock, which shares shall be fully paid and nonassessable shares of Common Stock of the Corporation; provided, however, that in lieu of fractional interests in shares of Common Stock to which any stockholder would otherwise be entitled pursuant hereto (taking into account all shares of Common Stock owned by such stockholder), such stockholder shall be entitled to receive a cash payment equal to the fair value of one share of Common Stock as determined by the Board of Directors of the Corporation multiplied by such fraction.
>
> "Effective November 1, 2007, every One (1) issued and outstanding shares of Common Stock of the Corporation shall be changed, combined and reclassified

into Three and Eighty-Two One Hundredths (3.82) shares of Common Stock, which shares shall be fully paid and nonassessable shares of Common Stock of the Corporation; *provided, however*, that in lieu of fractional interests in shares of Common Stock to which any stockholder would otherwise be entitled pursuant hereto (taking into account all shares of Common Stock owned by such stockholder), such stockholder shall be entitled to receive a cash payment equal to the fair value of one share of Common Stock as determined by the Board of Directors of the Corporation multiplied by such fraction."

3. Pursuant to Section 228(a) of the General Corporation Law of the State of Delaware, the holders of outstanding shares of the Corporation having no less than the minimum number of votes that would be necessary to authorize or take such actions at a meeting at which all shares entitled to vote thereon were present and voted, consented to the adoption of the aforesaid amendments without a meeting, without a vote and without prior notice and that written notice of the taking of such actions was given in accordance with Section 228(e) of the General Corporation Law of the State of Delaware.

4. This Certificate of Amendment to Restated Certificate of Incorporation, as filed under Sections 242 of the General Corporation Law of the State of Delaware, has been duly authorized in accordance thereof.

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to Restated Certificate of Incorporation be signed by its duly authorized officer this 1st day of November, 2007.

AMEDICA CORPORATION

By: /s/ Ashok C. Khandkar, Ph.D.
Ashok C. Khandkar, Ph.D.
Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES D CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the Delaware General Corporation Law (the "***Corporation***") does hereby certify:

FIRST: In the Certificate of Designation. Preferences and Rights of Series D Convertible Preferred Stock of the Corporation filed with the Secretary of State of the State of Delaware on April 16, 2007, pursuant to Section 151 of the Delaware General Corporation Law, the Corporation was authorized to issue 5,600,000 shares of Series D Convertible Preferred Stock, as a series of the Corporation's authorized Preferred Stock, par value $0.01 per share (the "***Series D Preferred Stock***");

SECOND: The board of directors of the Corporation by resolution adopted December 3, 2007, duly authorized and directed that the number of shares of Series D Preferred Stock be increased from 5,600,000 shares to 26,000,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized Chief Executive Officer this 21st day December, 2007.

AMEDICA CORPORATION

By: /s/ Reyn E. Gallacher
Name: Reyn E. Gallacher
Title: Chief Financial Officer, Vice President, Finance, and Assistant Secretary

CERTIFICATE OF AMENDMENT

TO

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Amedica Corporation, a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Amedica Corporation (the “Corporation”).

2. The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the “Restated Certificate”), and said Restated Certificate was amended by (a) Certificates of Designation filed on February 24, 2006 and April 16, 2007, (b) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, and (c) by a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007. The Restated Certificate, as amended, is hereby further amended to change the authorized capital of the Corporation by striking out the first paragraph of Article FOURTH thereof, as such paragraph appears in the Certificate of Amendment filed on November 1, 2007, and by substituting in lieu of said first paragraph of Article FOURTH the following new first paragraph:

> “The total number of shares of all classes of stock which the Corporation shall have authority to issue is Two Hundred Fifty Million (250,000,000), consisting of (i) One Hundred Fifty Million (150,000,000) shares of Common Stock, $0.01 par value per share (the “Common Stock”), and (ii) One Hundred Million (100,000,000) shares of Preferred Stock, $0.01 par value per share (the “Preferred Stock”).

3. Pursuant to Section 228(a) of the General Corporation Law of the State of Delaware, the holders of outstanding shares of the Corporation having no less than the minimum number of votes that would be necessary to authorize or take such actions at a meeting at which all shares entitled to vote thereon were present and voted, consented to the adoption of the aforesaid amendments without a meeting, without a vote and without prior notice, and written notice of the taking of such actions was given in accordance with Section 228(e) of the General Corporation Law of the State of Delaware.

4. The amendment of the Restated Certificate, as amended, as herein certified has been duly adopted in accordance with the provisions of Sections 242 of the General Corporation Law of the State of Delaware.

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to Restated Certificate of Incorporation be signed by its duly authorized officer this 1st day of March, 2010.

AMEDICA CORPORATION

By: /s/ Reyn E. Gallacher
Reyn E. Gallacher
Vice President, Finance and Chief Financial Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES E CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated March 1, 2010, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 17,400,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation, as amended, of the Corporation, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 17,400,000 shares of the authorized unissued Preferred Stock, as Series E Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series E Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series E Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series E Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, ***pari passu*** with the holders of the Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the

“***Series A Preferred Stock***”), Series A-1 Convertible Preferred Stock, $0.01 par value per share (the “***Series A-1 Preferred Stock***”), Series B Convertible Preferred Stock, $0.01 par value per share (the “***Series B Preferred Stock***”), Series B-1 Convertible Preferred Stock, $0.01 par value per share (the “***Series B-1 Preferred Stock***”), Series C Convertible Preferred Stock, $0.01 par value per share (the “***Series C Preferred Stock***”), Series C-1 Convertible Preferred Stock, $0.01 par value per share (the “***Series C-1 Preferred Stock***”), Series D Convertible Preferred Stock, $0.01 par value per share (the “***Series D Preferred Stock***”), and Series D-1 Convertible Preferred Stock, $0.01 par value per share (the “***Series D-1 Preferred Stock***”), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation’s capital stock designated to be junior to the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock, an amount equal to the original purchase price per share of Series E Preferred Stock (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series E Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the “***Base Liquidation Price***”) plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series E Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; ***provided***, ***however***, that the holders of at least a majority of the outstanding shares of the Series E Preferred Stock upon the occurrence of a Reorganization shall have the option to elect to cause all holders of Series E Preferred Stock to receive the benefits of Subsection 2(d)(vi) hereof for the Series E Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any

Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series E Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series E Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert; Conversion Price. Each share of Series E Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series E Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series E Preferred Stock of $2.00 by the applicable Conversion Price for such series, as defined below (the "***Conversion Ratio***"). The initial Conversion Ratio shall be 1:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series E Preferred Stock (the "***Conversion Price***") shall initially be $2.00. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series E Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series E Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series E Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series E Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series E Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any

fraction of a share. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Series E Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series E Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series E Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "***Qualified Initial Public Offering***").

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series E Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series E Preferred Stock; ***provided***, ***however***, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series E Preferred Stock were convertible unless the certificate or certificates representing such shares of Series E Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series E Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series E Preferred Stock, each holder of Series E Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series E Preferred Stock at the office of the Corporation or of the transfer agent for the Series E Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series E Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series E Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series E Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series E Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a

record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed

therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series E Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "***Reorganization***"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series E Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series E Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series E Preferred Stock into shares of Common Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series E Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series E Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series E Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series E Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series E Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series E Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series E Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series E Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series E Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series E Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series E Preferred Stock; ***provided***, ***however***, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series E Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series E Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series E Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series E Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, the holders of Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series E Preferred Stock shall vote as a separate class with respect to any matter or proposed action as to which applicable law or this Certificate of Designation requires or permits the vote, consent, or approval of the holders of the Series E Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series E Preferred Stock shall have that number of votes per share of Series E Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series E Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as are required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series E Preferred Stock, voting separately as a class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series E Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series E Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series E Preferred Stock shall be entitled to receive such dividends ***pari passu*** with the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock and Series D-1 Preferred Stock, and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series E Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series E Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series E Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series E Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series E Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series E Preferred Stock held by each holder thereof would have received if such Series E Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series E Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series E Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series E Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series E Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series E Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants. The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of

the holders of the shares of Series E Preferred Stock so as to affect them adversely; ***provided***, ***however***, that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series E Preferred Stock. The holders of at least a majority of the number of shares of Series E Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series E Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series E Preferred Stock. No share or shares of Series E Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series E Preferred Stock shall be vested in the Common Stock.

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 19th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley

Name: Ben Shappley
Title: President and Chief Executive Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES A-1 CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated March 1, 2010, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 10,400,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation, as amended, of the Corporation, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 10,400,000 shares of the authorized unissued Preferred Stock, as Series A-1 Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series A-1 Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series A-1 Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series A-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series A-1 Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series A-1 Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, ***pari passu*** with the holders of the Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the

"***Series A Preferred Stock***"), Series B Convertible Preferred Stock, $0.01 par value per share (the "***Series B Preferred Stock***"), Series B-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series B-1 Preferred Stock***"), Series C Convertible Preferred Stock, $0.01 par value per share (the "***Series C Preferred Stock***"), Series C-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series C-1 Preferred Stock***"), Series D Convertible Preferred Stock, $0.01 par value per share (the ***"Series D Preferred Stock"***), Series D-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series D-1 Preferred Stock***"), and Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock, $0.60 per share (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series A-1 Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the "***Base Liquidation Price***"), *plus* all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series A-1 Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; ***provided***, ***however***, that the holders of at least a majority of the outstanding shares of the Series A-1 Preferred Stock upon the occurrence of a Reorganization shall have the option to elect to cause all holders of Series A-1 Preferred Stock to receive the benefits of Subsection 2(d)(vi) hereof for the Series A-1 Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or(2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series A-1 Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series A-1 Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert: Conversion Price. Each share of Series A-1 Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series A-1 Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series A-1 Preferred Stock of $0.60 by the applicable Conversion Price for such series, as defined below (the "***Conversion Ratio***"). The initial Conversion Ratio shall be 1.5:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series A-1 Preferred Stock (the "***Conversion Price***") shall initially be $0.40. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series A-1 Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series A-1 Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series A-1 Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series A-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series A-1 Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the

close of business on the date of such surrender of the shares of Series A-1 Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series A-1 Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series A-1 Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "***Qualified Initial Public Offering***").

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series A-1 Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series A-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series A-1 Preferred Stock were convertible unless the certificate or certificates representing such shares of Series A-1 Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series A-1 Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series A-1 Preferred Stock, each holder of Series A-1 Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series A-1 Preferred Stock at the office of the Corporation or of the transfer agent for the Series A-1 Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series A-1 Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series A-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series A-1 Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series A-1 Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options

or Convertible Securities which are Excluded Shares) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed

therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series A-1 Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "***Reorganization***"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series A-1 Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series A-1 Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series A-1 Preferred Stock into shares of Common Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series A-1 Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series A-1 Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series A-1 Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series A-1 Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series A-1 Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series A-1 Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series A-1 Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series A-1 Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series A-1 Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series A-1 Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series A-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series A-1 Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series A-1 Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series A-1 Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series A-1 Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series A-1 Preferred Stock shall vote together with the holders of the Series A Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Certificate of Designation requires or permits the vote, consent, or approval of the holders of the Series A Preferred Stock and the holders of the Series A-1 Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series A-1 Preferred Stock shall have that number of votes per share of Series A-1 Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series A-1 Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as are required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series A Preferred Stock and Series A-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series A Preferred Stock and the Series A-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series A Preferred Stock or the Series A-1 Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series A-1 Preferred Stock shall be entitled to receive such dividends ***pari passu*** with the holders of Series A Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock, and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series A-1 Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series A-1 Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series A-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series A-1 Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series A-1 Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series A-1 Preferred Stock held by each holder thereof would have received if such Series A-1 Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series A-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series A-1 Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series A-1 Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series A-1 Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series A- 1 Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants. The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of the holders of the shares of Series A-1 Preferred Stock so as to affect them adversely; ***provided***, ***however***, that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series A-1 Preferred Stock. The holders of at least a majority of the number of shares of Series A-1 Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series A-1 Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series A-1 Preferred Stock. No share or shares of Series A-1 Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series A-1 Preferred Stock shall be vested in the Common Stock.

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 19th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley

Name: Ben Shappley
Title: President and Chief Executive Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES B-1 CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated March 1, 2010, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 3,300,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation of the Corporation, as amended, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 3,300,000 shares of the authorized unissued Preferred Stock, as Series B-1 Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series B-1 Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series B-1 Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series B-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series B-1 Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series B-1 Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, ***pari passu*** with the holders of the Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the "***Series A Preferred Stock***"), Series A-1 Convertible Preferred Stock, $0.01 par value per

share (the "***Series A-1 Preferred Stock***"), Series B Convertible Preferred Stock, $0.01 par value per share (the "***Series B Preferred Stock***"), Series C Convertible Preferred Stock, $0.01 par value per share (the "***Series C Preferred Stock***"), Series C-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series C-1 Preferred Stock***"), Series D Convertible Preferred Stock, $0.01 par value per share (the "***Series D Preferred Stock***"), Series D-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series D-1 Preferred Stock***"), and Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock, $1.20 per share (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series B-1 Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the "***Base Liquidation Price***"), *plus* all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series B-1 Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; ***provided***, ***however***, that the holders of at least a majority of the outstanding shares of the Series B-1 Preferred Stock upon the occurrence of a Reorganization shall have the option to elect to cause all holders of Series B-1 Preferred Stock to receive the benefits of Subsection 2(d)(vi) hereof for the Series B-1 Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series B-1 Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series B-1 Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert: Conversion Price. Each share of Series B-1 Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series B-1 Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series B-1 Preferred Stock of $1.20 by the applicable Conversion Price for such series, as defined below (the "***Conversion Ratio***"). The initial Conversion Ratio shall be 1.5:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series B-1 Preferred Stock (the "***Conversion Price***") shall initially be $0.80. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series B-1 Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series B-1 Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series B-1 Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series B-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series B-1 Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the

close of business on the date of such surrender of the shares of Series B-1 Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series B-1 Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series B-1 Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "***Qualified Initial Public Offering***").

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series B-1 Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series B-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series B-1 Preferred Stock were convertible unless the certificate or certificates representing such shares of Series B-1 Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series B-1 Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series B-1 Preferred Stock, each holder of Series B-1 Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series B-1 Preferred Stock at the office of the Corporation or of the transfer agent for the Series B-1 Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series B-1 Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series B-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series B-1 Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series B-1 Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a

record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed

therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series B-1 Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "***Reorganization***"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series B-1 Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series B-1 Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series B-1 Preferred Stock into shares of Common Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series B-1 Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series B-1 Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series B-1 Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series B-1 Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series B-1 Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series B-1 Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series B-1 Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series B-1 Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series B-1 Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series B-1 Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series B-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series B-1 Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series B-1 Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series B-1 Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series B-1 Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series B-1 Preferred Stock shall vote together with the holders of the Series B Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Certificate of Designation requires or permits the vote, consent, or approval of the holders of the Series B Preferred Stock and the holders of the Series B-1 Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series B-1 Preferred Stock shall have that number of votes per share of Series B-1 Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series B-1 Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as are required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series B Preferred Stock and Series B-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series B Preferred Stock and the Series B-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series B Preferred Stock or the Series B-1 Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series B-1 Preferred Stock shall be entitled to receive such dividends ***pari passu*** with the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock, and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series B-1 Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series B-1 Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series B-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series B-1 Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series B-1 Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series B-1 Preferred Stock held by each holder thereof would have received if such Series B-1 Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series B-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series B-1 Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series B-1 Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series B-1 Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series B- 1 Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants. The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of the holders of the shares of Series B-1 Preferred Stock so as to affect them adversely; ***provided***, ***however***, that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series B-1 Preferred Stock. The holders of at least a majority of the number of shares of Series B-1 Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series B-1 Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series B-1 Preferred Stock. No share or shares of Series B-1 Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series B-1 Preferred Stock shall be vested in the Common Stock.

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 19th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley

Name: Ben Shappley
Title: President and Chief Executive Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES C-1 CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated March 1, 2010, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 4,325,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation of the Corporation, as amended, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 4,325,000 shares of the authorized unissued Preferred Stock, as Series C-1 Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series C-1 Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series C-1 Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series C-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series C-1 Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series C-1 Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, ***pari passu*** with the holders of the Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the "***Series A Preferred Stock***"), Series A-1 Convertible Preferred Stock, $0.01 par value per

share (the "***Series A-1 Preferred Stock***"), Series B Convertible Preferred Stock, $0.01 par value per share (the "***Series B Preferred Stock***"), Series B-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series B-1 Preferred Stock***"), Series C Convertible Preferred Stock, $0.01 par value per share (the "***Series C Preferred Stock***"), Series D Convertible Preferred Stock, $0.01 par value per share (the "***Series D Preferred Stock***"), Series D-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series D-1 Preferred Stock***"), and Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock, $2.00 per share (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series C-1 Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the "***Base Liquidation Price***"), plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series C-1 Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; ***provided***, ***however***, that the holders of at least a majority of the outstanding shares of the Series C-1 Preferred Stock upon the occurrence of a Reorganization shall have the option to elect to cause all holders of Series C-1 Preferred Stock to receive the benefits of Subsection 2(d)(vi) hereof for the Series C-1 Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series C-1 Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series C-1 Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert; Conversion Price. Each share of Series C-1 Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series C-1 Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series C-1 Preferred Stock of $2.00 by the applicable Conversion Price for such series, as defined below (the "***Conversion Ratio***"). The initial Conversion Ratio shall be 1.5:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series C-1 Preferred Stock (the "***Conversion Price***") shall initially be $1.33. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series C-1 Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series C-1 Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series C-1 Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series C-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series C-1 Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the

close of business on the date of such surrender of the shares of Series C-1 Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series C-1 Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series C-1 Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "***Qualified Initial Public Offering***").

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series C-1 Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series C-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series C-1 Preferred Stock were convertible unless the certificate or certificates representing such shares of Series C-1 Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series C-1 Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series C-1 Preferred Stock, each holder of Series C-1 Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series C-1 Preferred Stock at the office of the Corporation or of the transfer agent for the Series C-1 Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series C-1 Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series C-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series C-1 Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series C-1 Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a

record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed

therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series C-1 Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "***Reorganization***"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series C-1 Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series C-1 Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series C-1 Preferred Stock into shares of Common Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series C-1 Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series C-1 Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series C-1 Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series C-1 Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series C-1 Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series C-1 Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series C-1 Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series C-1 Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series C-1 Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series C-1 Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series C-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series C-1 Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series C-1 Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series C-1 Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series C-1 Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series C-1 Preferred Stock shall vote together with the holders of the Series C Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Certificate of Designation requires or permits the vote, consent, or approval of the holders of the Series C Preferred Stock and the holders of the Series C-1 Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series C-1 Preferred Stock shall have that number of votes per share of Series C-1 Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series C-1 Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as are required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series C Preferred Stock and Series C-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series C Preferred Stock and the Series C-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series C Preferred Stock or the Series C-1 Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series C-1 Preferred Stock shall be entitled to receive such dividends ***pari passu*** with the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock, and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series C-1 Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series C-1 Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series C-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series C-1 Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series C-1 Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series C-1 Preferred Stock held by each holder thereof would have received if such Series C-1 Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series C-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series C-1 Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series C-1 Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series C-1 Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series C-1 Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants. The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of the holders of the shares of Series C-1 Preferred Stock so as to affect them adversely; ***provided***, ***however***, that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series C-1 Preferred Stock. The holders of at least a majority of the number of shares of Series C-1 Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series C-1 Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series C-1 Preferred Stock. No share or shares of Series C-1 Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series C-1 Preferred Stock shall be vested in the Common Stock.

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 19th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley

Name: Ben Shappley
Title: President and Chief Executive Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES D-1 CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated March 1, 2010, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 6,200,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation of the Corporation, as amended, the Board hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 6,200,000 shares of the authorized unissued Preferred Stock, as Series D-1 Convertible Preferred Stock, and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series D-1 Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series D-1 Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series D-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series D-1 Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up.

(i) In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary, the holders of Series D-1 Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock of all classes, ***pari passu*** with the holders of the Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the "***Series A Preferred Stock***"), Series A-1 Convertible Preferred Stock, $0.01 par value per

share (the "***Series A-1 Preferred Stock***"), Series B Convertible Preferred Stock, $0.01 par value per share (the "***Series B Preferred Stock***"), Series B-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series B-1 Preferred Stock***"), Series C Convertible Preferred Stock, $0.01 par value per share (the "***Series C Preferred Stock***"), Series C-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series C-1 Preferred Stock***"), Series D Convertible Preferred Stock, $0.01 par value per share (the "***Series D Preferred Stock***"), and Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock, $3.00 per share (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series D-1 Preferred Stock and, as so adjusted from time to time, is hereinafter referred to as the "***Base Liquidation Price***"), plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series D-1 Preferred Stock with respect to such liquidation, dissolution or winding up.

(ii) Following payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(i) hereof, then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; ***provided***, ***however***, that the holders of at least a majority of the outstanding shares of the Series D-1 Preferred Stock upon the occurrence of a Reorganization shall have the option to elect to cause all holders of Series D-1 Preferred Stock to receive the benefits of Subsection 2(d)(vi) hereof for the Series D-1 Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series D-1 Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series D-1 Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert: Conversion Price. Each share of Series D-1 Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series D-1 Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for such series of the Series D-1 Preferred Stock of $3.00 by the applicable Conversion Price for such series, as defined below (the "***Conversion Ratio***"). The initial Conversion Ratio shall be 1.5:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series D-1 Preferred Stock (the "***Conversion Price***") shall initially be $2.00. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series D-1 Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series D-1 Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series D-1 Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series D-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series D-1 Preferred Stock, or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the

close of business on the date of such surrender of the shares of Series D-1 Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series D-1 Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Each share of Series D-1 Preferred Stock shall automatically be converted into shares of Common Stock at the then effective Conversion Ratio upon the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock) (a "***Qualified Initial Public Offering***").

(ii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series D-1 Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series D-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series D-1 Preferred Stock were convertible unless the certificate or certificates representing such shares of Series D-1 Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series D-1 Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iii) Upon the automatic conversion of Series D-1 Preferred Stock, each holder of Series D-1 Preferred Stock shall surrender the certificate or certificates representing such holder's shares of Series D-1 Preferred Stock at the office of the Corporation or of the transfer agent for the Series D-1 Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series D-1 Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series D-1 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series D-1 Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series D-1 Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or Series D Preferred Stock into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively.

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options

or Convertible Securities which are Excluded Shares) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed

therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.

(A) In the event the Corporation at any time after the Original Issue Date shall issue Additional Shares of Common Stock (including, without limitation, Additional Shares of Common Stock deemed to be issued pursuant to Section 2(d)(ii)(A) hereof but excluding Additional Shares of Common Stock deemed to be issued under Section 2(d)(ii)(B) hereof) without consideration or for a consideration per share less than the then applicable Conversion Price in effect on the date of and immediately prior to such issue, then, and in such event, such Conversion Price shall be reduced, concurrently with such issue, in order to increase the number of shares of Common Stock into which the Series D-1 Preferred Stock is convertible, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of shares of Common Stock which the aggregate consideration received or deemed to have been received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at such Conversion Price, and the denominator of which shall be (I) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of Common Stock underlying any outstanding Options or Convertible Securities) plus (II) the number of Additional Shares of Common Stock so issued or deemed to be issued.

(B) Notwithstanding anything to the contrary contained herein, the applicable Conversion Price in effect at the time Additional Shares of Common Stock are issued or deemed to be issued shall not be reduced pursuant to Section 2(d)(iv)(A) hereof at such time if the amount of such reduction would be an amount less than $0.01, but any such amount shall be carried forward and reduction with respect thereto made at the time of and together with any subsequent reduction which, together with such amount and any other amount or amounts so carried forward, shall aggregate $0.01 or more.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "***Reorganization***"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series D-1 Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series D-1 Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series D-1 Preferred Stock into shares of Common Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series D-1 Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series D-1 Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series D-1 Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series D-1 Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series D-1 Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series D-1 Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series D-1 Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series D-1 Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series D-1 Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series D-1 Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series D-1 Preferred Stock; ***provided***, ***however***, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series D-1 Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series D-1 Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series D-1 Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series D-1 Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series D-1 Preferred Stock shall vote together with the holders of the Series D Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Certificate of Designation requires or permits the vote, consent, or approval of the holders of the Series D Preferred Stock and the holders of the Series D-1 Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series D-1 Preferred Stock shall have that number of votes per share of Series D-1 Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series D-1 Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as are required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series D Preferred Stock and Series D-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series D Preferred Stock and the Series D-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series D Preferred Stock or the Series D-1 Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series D-1 Preferred Stock shall be entitled to receive such dividends ***pari passu*** with the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, and Series E Preferred Stock, and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series D- 1 Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series D-1 Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series D-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series D-1 Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series D-1 Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series D-1 Preferred Stock held by each holder thereof would have received if such Series D-1 Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series D-1 Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series D-1 Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series D-1 Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series D-1 Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series D-1 Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Liquidation Price then in effect.

5. Covenants. The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of the holders of the shares of Series D-1 Preferred Stock so as to affect them adversely; ***provided***, ***however***, that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series D-1 Preferred Stock. The holders of at least a majority of the number of shares of Series D-1 Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series D-1 Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series D-1 Preferred Stock. No share or shares of Series D-1 Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series D-1 Preferred Stock shall be vested in the Common Stock,

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 19th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley

Name: Ben Shappley

Title: President and Chief Executive Officer

CERTIFICATE OF AMENDMENT

TO

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Amedica Corporation, a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Amedica Corporation (the "***Corporation***").

2. The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "***Base Restated Certificate***"), and said Base Restated Certificate was amended by (a) a Certificate of Designation filed on February 24, 2006 (the "***Series C Certificate of Designation***"), (b) a Certificate of Designation filed on April 16, 2007 (the "***Series D Certificate of Designation***"), (c) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, and (e) a Certificate of Amendment filed on March 1, 2010.

3. The Base Restated Certificate, as amended, is hereby further amended to supplement the conversion rights of each of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock of the Corporation as follows:

A. The following paragraphs are inserted immediately following Article FOURTH, Section C(2)(a) of the Base Restated Certificate:

"In addition to the right to voluntarily convert shares of Series A Preferred Stock into Common Stock as set forth in the first paragraph of this Section 2(a), if a holder of Series A Preferred Stock purchases, in connection with the Corporation's 2010 Series E Offering (the "***Series E Offering***"), shares of the Corporation's Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), at an aggregate purchase price equal to or greater than twenty-five percent (25%) of the gross amount received by the Corporation when it originally issued and sold the shares of Series A Preferred Stock held by such holder at the time of a closing of the Series E Offering (such a holder being

referred herein as an "***Eligible Series E Investor***"), then such an Eligible Series E Investor may elect to convert, in connection with the Series E Offering, all shares of Series A Preferred Stock registered in his, her or its name, without the payment of additional consideration and at the option of the holder thereof, into an equal number of shares of the Corporation's Series A-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series A-1 Preferred Stock***"), which shall have an initial conversion price of $0.40. By electing to convert his, her or its Series A Preferred Stock into shares of Series A-1 Preferred Stock, an Eligible Series E Investor shall have waived any and all adjustments to the Conversion Price then applicable to such shares of Series A Preferred Stock resulting from the completion of the Series E Offering. As a condition precedent to a holder of Series A Preferred Stock's right to convert shares of Series A Preferred Stock into shares of Series A-1 Preferred Stock, the holder shall execute and deliver the subscription documents required by the Corporation to subscribe for at least the minimum number of shares of Series E Preferred Stock necessary to qualify as an Eligible Series E Investor, tender to an escrow agent designated by the Corporation at least the minimum amount of cash required to subscribe for such minimum number of shares of Series E Preferred Stock, and take all other steps and meet all other requirements and conditions imposed by the Corporation to subscribe for shares of Series E Preferred Stock (including satisfying the minimum investment requirements for the Series E Offering determined by the Corporation). No fractional shares of Series A-1 Preferred Stock shall be issued upon conversion of shares of Series A Preferred Stock. Following the completion of the sale and issuance of the shares of Series E Preferred Stock in connection with the Series E Offering, each Eligible Series E Investor shall surrender the certificate of certificates representing shares of Series A Preferred Stock registered in his, her or its name at the office of the Corporation or any transfer agent for the Series A Preferred Stock. Thereupon, there shall be issued and delivered as promptly as practicable to such Eligible Series E Investor a certificate or certificates representing the number of shares of Series A-1 Preferred Stock into which the shares of Series A Preferred Stock surrendered were convertible on the date of such holder's purchase of shares of Series E Preferred Stock. The Corporation shall not be obligated to issue certificates representing shares of Series A-1 Preferred Stock unless and until certificates representing the shares of Series A Preferred Stock so converted are either delivered to the Corporation or to any transfer agent for the Series A Preferred Stock or the Eligible Series E Investor notifies the Corporation or any such transfer agent that such certificates have been lost, stolen or destroyed an executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith.

In addition to the right to voluntarily convert shares of Series B Preferred Stock into Common Stock as set forth in the first paragraph of this Section 2(a), if a holder of Series B Preferred Stock purchases, in connection with the Series E Offering, shares of Series E Preferred Stock at an aggregate purchase price equal to or greater than twenty-five percent (25%) of the gross amount received by the

Corporation when it originally issued and sold the shares of Series B Preferred Stock held by such holder at the time of a closing of the Series E Offering (such a holder being referred herein as an "***Eligible Series E Investor***"), then such an Eligible Series E Investor may elect to convert, in connection with the Series E Offering, all shares of Series B Preferred Stock registered in his, her or its name, without the payment of additional consideration and at the option of the holder thereof, into an equal number of shares of the Corporation's Series B-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series B-1 Preferred Stock***"), which shall have an initial conversion price of $0.80. By electing to convert his, her or its Series B Preferred Stock into shares of Series B-1 Preferred Stock, an Eligible Series E Investor shall have waived any and all adjustments to the Conversion Price then applicable to such shares of Series B Preferred Stock resulting from the completion of the Series E Offering. As a condition precedent to a holder of Series B Preferred Stock's right to convert shares of Series B Preferred Stock into shares of Series B-1 Preferred Stock, the holder shall execute and deliver the subscription documents required by the Corporation to subscribe for at least the minimum number of shares of Series E Preferred Stock necessary to qualify as an Eligible Series E Investor, tender to an escrow agent designated by the Corporation at least the minimum amount of cash required to subscribe for such minimum number of shares of Series E Preferred Stock, and take all other steps and meet all other requirements and conditions imposed by the Corporation to subscribe for shares of Series E Preferred Stock (including satisfying the minimum investment requirements for the Series E Offering determined by the Corporation). No fractional shares of Series B-1 Preferred Stock shall be issued upon conversion of shares of Series B Preferred Stock. Following the completion of the sale and issuance of the shares of Series E Preferred Stock in connection with the Series E Offering, each Eligible Series E Investor shall surrender the certificate of certificates representing shares of Series B Preferred Stock registered in his, her or its name at the office of the Corporation or any transfer agent for the Series B Preferred Stock. Thereupon, there shall be issued and delivered as promptly as practicable to such Eligible Series E Investor a certificate or certificates representing the number of shares of Series B-1 Preferred Stock into which the shares of Series B Preferred Stock surrendered were convertible on the date of such holder's purchase of shares of Series E Preferred Stock. The Corporation shall not be obligated to issue certificates representing shares of Series B-1 Preferred Stock unless and until certificates representing the shares of Series B Preferred Stock so converted are either delivered to the Corporation or to any transfer agent for the Series B Preferred Stock or the Eligible Series E Investor notifies the Corporation or any such transfer agent that such certificates have been lost, stolen or destroyed an executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith."

B. The following paragraph is inserted immediately following Section 2(a) of the Series C Certificate of Designation:

"In addition to the right to voluntarily convert shares of Series C Preferred Stock into Common Stock as set forth in the first paragraph of this Section 2(a), if a holder of Series C Preferred Stock purchases, in connection with the Corporation's 2010 Series E Offering (the "***Series E Offering***"), shares of the Corporation's Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), at an aggregate purchase price equal to or greater than twenty-five percent (25%) of the gross amount received by the Corporation when it originally issued and sold the shares of Series C Preferred Stock held by such holder at the time of a closing of the Series E Offering (such a holder being referred herein as an "***Eligible Series E Investor***"), then such an Eligible Series E Investor may elect to convert, in connection with the Series E Offering, all shares of Series C Preferred Stock registered in his, her or its name, without the payment of additional consideration and at the option of the holder thereof, into an equal number of shares of the Corporation's Series C-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series C-1 Preferred Stock***"), which shall have an initial conversion price of $1.33. By electing to convert his, her or its Series C Preferred Stock into shares of Series C-1 Preferred Stock, an Eligible Series E Investor shall have waived any and all adjustments to the Conversion Price then applicable to such shares of Series C Preferred Stock resulting from the Corporation's completion of the Series E Offering. As a condition precedent to a holder of Series C Preferred Stock's right to convert shares of Series C Preferred Stock into shares of Series C-1 Preferred Stock, the holder shall execute and deliver the subscription documents required by the Corporation to subscribe for the at least the minimum number of shares of Series E Preferred Stock necessary to qualify as an Eligible Series E Investor, tender to an escrow agent designated by the Corporation at least the minimum amount of cash required to subscribe for such minimum number of shares of Series E Preferred Stock, and take all other steps and meet all other requirements and conditions imposed by the Corporation to subscribe for shares of Series E Preferred Stock (including satisfying the minimum investment requirements for the Series E Offering determined by the Corporation). No fractional shares of Series C-1 Preferred Stock shall be issued upon conversion of shares of Series C Preferred Stock. Following the completion of the sale and issuance of the shares of Series E Preferred Stock in connection with the Series E Offering, each Eligible Series E Investor shall surrender the certificate of certificates representing shares of Series C Preferred Stock registered in his, her or its name at the office of the Corporation or any transfer agent for the Series C Preferred Stock. Thereupon, there shall be issued and delivered as promptly as practicable to such Eligible Series E Investor a certificate or certificates representing the number of shares of Series C-1 Preferred Stock into which the shares of Series C Preferred Stock surrendered were convertible on the date of such holder's purchase of shares of Series E Preferred Stock. The Corporation shall not be obligated to issue certificates representing shares of Series C-1 Preferred Stock unless and until

certificates representing the shares of Series C Preferred Stock so converted are either delivered to the Corporation or to any transfer agent for the Series C Preferred Stock or the Eligible Series E Investor notifies the Corporation or any such transfer agent that such certificates have been lost, stolen or destroyed an executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith."

C. The following paragraph is inserted immediately following Section 2(a) of the Series D Certificate of Designation:

"In addition to the right to voluntarily convert shares of Series D Preferred Stock into Common Stock as set forth in the first paragraph of this Section 2(a), if a holder of Series D Preferred Stock purchases, in connection with the Corporation's 2010 Series E Offering (the "***Series E Offering***"), shares of the Corporation's Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"), at an aggregate purchase price equal to or greater than twenty-five percent (25%) of the gross amount received by the Corporation when it originally issued and sold the shares of Series D Preferred Stock held by such holder at the time of a closing of the Series E Offering (such a holder being referred herein as an "***Eligible Series E Investor***"), then such an Eligible Series E Investor may elect to convert, in connection with the Series E Offering, all shares of Series D Preferred Stock registered in his, her or its name, without the payment of additional consideration and at the option of the holder thereof, into an equal number of shares of the Corporation's Series D-1 Convertible Preferred Stock,$0.01 par value per share (the "***Series D-1 Preferred Stock***"), which shall have an initial conversion price of $2.00. By electing to convert his, her or its Series D Preferred Stock into shares of Series D-1 Preferred Stock, an Eligible Series E Investor shall have waived any and all adjustments to the Conversion Price then applicable to such shares of Series D Preferred Stock resulting from the completion of the Series E Offering. As a condition precedent to a holder of Series D Preferred Stock's right to convert shares of Series D Preferred Stock into shares of Series D-1 Preferred Stock, the holder shall execute and deliver the subscription documents required by the Corporation to subscribe for at least the minimum number of shares of Series E Preferred Stock necessary to qualify as an Eligible Series E Investor, tender to an escrow agent designated by the Corporation at least the minimum amount of cash required to subscribe for such minimum number of shares of Series E Preferred Stock, and take all other steps and meet all other requirements and conditions imposed by the Corporation to subscribe for shares of Series E Preferred Stock (including satisfying the minimum investment requirements for the Series E Offering determined by the Corporation). No fractional shares of Series D-1 Preferred Stock shall be issued upon conversion of shares of Series D Preferred Stock. Following the completion of the sale and issuance of the shares of Series E Preferred Stock in connection with the Series E Offering, each Eligible Series E Investor shall surrender the certificate of certificates representing shares of Series D Preferred Stock registered in his, her or its name at the office of the Corporation or

any transfer agent for the Series D Preferred Stock. Thereupon, there shall be issued and delivered as promptly as practicable to such Eligible Series E Investor a certificate or certificates representing the number of shares of Series D-1 Preferred Stock into which the shares of Series D Preferred Stock surrendered were convertible on the date of such holder's purchase of shares of Series E Preferred Stock. The Corporation shall not be obligated to issue certificates representing shares of Series D-1 Preferred Stock unless and until certificates representing the shares of Series D Preferred Stock so converted are either delivered to the Corporation or to any transfer agent for the Series D Preferred Stock or the Eligible Series E Investor notifies the Corporation or any such transfer agent that such certificates have been lost, stolen or destroyed an executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith."

4. The Base Restated Certificate, as amended, is hereby further amended to change the definition of "Excluded Shares" with respect to adjustments to the conversion price for diluting issues of each of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock of the Corporation as follows:

A. Section C.2(d)(D) of Article FOURTH of the Base Restated Certificate is deleted in its entirety and the following Section C.2(d)(D) of Article FOURTH is inserted in place thereof:

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, the Series C Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the ***"Series C Preferred Stock***"), the Series C-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the "***Series C-1 Preferred Stock***"), the Series D Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the "***Series D Preferred Stock***"), the Series D-1 Convertible Preferred Stock $0.01 par value per share, of the Corporation (the "***Series D-1 Preferred Stock***"), or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively."

B. Section 2(d)(D) of the Series C Certificate of Designation is deleted in its entirety and the following Section 2(d)(D) is inserted in place thereof:

(D) "“***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, the Series A-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the "***Series A-1 Preferred Stock***"), Series B Preferred Stock, the Series B-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the "***Series B-1 Preferred Stock***"), Series C Preferred Stock, Series C-1 Preferred Stock, the Series D Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the "Series D Preferred Stock"), the Series D-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the "***Series D-1 Preferred Stock***"), or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively."

C. Section 2(d)(D) of the Series D Certificate of Designation is deleted in its entirety and the following Section 2(d)(D) is inserted in place thereof:

(D) "“***Additional Shares of Common Stock***” shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the “***Excluded Shares***”):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, the Series A-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the “***Series A-1 Preferred Stock***”), Series B Preferred Stock, the Series B-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the “***Series B-1 Preferred Stock***”), Series C Preferred Stock, the Series C-1 Convertible Preferred Stock, $0.01 par value per share, of the Corporation (the “***Series C-1 Preferred Stock***”), Series D Preferred Stock, Series D-1 Preferred Stock or Series E Preferred Stock;

(II) Options or shares of Common Stock issued or issuable pursuant to the Corporation’s 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors; or

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively.”

5. The Base Restated Certificate, as amended, is hereby further amended to change the voting rights of each of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock of the Corporation as follows:

A. Section C.3. of Article FOURTH of the Base Restated Certificate is deleted in its entirety and the following Section C.3. of Article FOURTH is inserted in place thereof:

“3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Incorporation, the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Convertible Preferred Stock, Series C-1 Convertible Preferred Stock,

Series D Convertible Preferred Stock, Series D-1 Convertible Preferred Stock, Series E Convertible Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series A Preferred Stock shall vote together with the holders of the Series A-1 Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Restated Certificate of Incorporation, as amended, requires or permits the vote, consent, or approval of the holders of the Series A Preferred Stock and the holders of the Series A-1 Preferred Stock, and the holders of the Series B Preferred Stock shall vote together with the holders of the Series B-1 Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Restated Certificate of Incorporation, as amended, requires or permits the vote, consent, or approval of the holders of the Series B Preferred Stock and the holders of the Series B-1 Preferred Stock.

(b)

(i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series A Preferred Stock and Series B Preferred Stock shall have that number of votes per share of Series A Preferred Stock or Series B Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series A Preferred Stock or Series B Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series A Preferred Stock and Series A-1 Preferred Stock, voting together as a single separate class, and at least a majority of the then outstanding shares of Series B Preferred Stock and Series B-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series A Preferred Stock, the Series A-1 Preferred Stock, the Series B Preferred Stock and the Series B-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series A Preferred Stock, the Series A-1 Preferred Stock, the Series B Preferred Stock or the Series B-1 Preferred Stock."

B. Section 3 of the Series C Certificate of Designation is deleted in its entirety and the following Section 3 is inserted in place thereof:

"3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Incorporation, the holders of Series A Preferred Stock, Series A-1 Convertible Preferred Stock, Series B Preferred Stock, Series B-1 Convertible Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Convertible Preferred Stock, Series D-1 Convertible Preferred Stock, Series E Convertible Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series C Preferred Stock shall vote together with the holders of the Series C-1 Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Restated Certificate of Incorporation, as amended, requires or permits the vote, consent, or approval of the holders of the Series C Preferred Stock and the holders of the Series C-1 Preferred Stock.

(b)

(i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series C Preferred Stock shall have that number of votes per share of Series C Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series C Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series C Preferred Stock and Series C-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series C Preferred and the Series C-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series C Preferred Stock or the Series C-1 Preferred Stock."

C. Section 3 of the Series D Certificate of Designation is deleted in its entirety and the following Section 3 is inserted in place thereof:

"3. <u>Voting Rights</u>.

(a) Except as otherwise required by law or this Certificate of Incorporation, the holders of Series A Preferred Stock, Series A-1 Convertible Preferred Stock, Series B Preferred Stock, Series B-1 Convertible Preferred Stock, Series C Preferred Stock, Series C-1 Convertible Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Convertible Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series D Preferred Stock shall vote together with the holders of the Series D-1 Preferred Stock, as a single separate class, with respect to any matter or proposed action as to which applicable law or this Restated Certificate of Incorporation, as amended, requires or permits the vote, consent, or approval of the holders of the Series D Preferred Stock and the holders of the Series D-1 Preferred Stock.

(b)

(i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series D Preferred Stock shall have that number of votes per share of Series D Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series D Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series D Preferred Stock and Series D-1 Preferred Stock, voting together as a single separate class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series D Preferred Stock and the Series D-1 Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series D Preferred Stock or the Series D-1 Preferred Stock."

6. Pursuant to Section 228(a) of the General Corporation Law of the State of Delaware, the holders of outstanding shares of the Corporation having no less than the minimum number of votes that would be necessary to authorize or take such actions at a meeting at which all shares entitled to vote thereon were present and voted, consented to the adoption of the aforesaid amendments without a meeting, without a vote and without prior notice, and written notice of the taking of such actions was given in accordance with Section 228(e) of the General Corporation Law of the State of Delaware.

7. The amendment of the Restated Certificate, as amended, as herein certified has been duly adopted in accordance with the provisions of Sections 242 of the General Corporation Law of the State of Delaware.

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to Restated Certificate of Incorporation be signed by its duly authorized officer this 19th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley
Ben Shappley
President and Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES D-1 CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the Delaware General Corporation Law (the "***Corporation***") does hereby certify:

FIRST: In the Certificate of Designation, Preferences and Rights of Series D-1 Convertible Preferred Stock of the Corporation filed with the Secretary of State of the State of Delaware on March 19, 2010, pursuant to Section 151 of the Delaware General Corporation Law, the Corporation was authorized to issue 6,200,000 shares of Series D-1 Convertible Preferred Stock, as a series of the Corporation's authorized Preferred Stock, par value $0.01 per share (the "***Series D-1 Preferred Stock***");

SECOND: The Board of Directors of the Corporation, acting through its duly authorized and empowered Series E Offering Committee, by resolution adopted as of March 22, 2010, duly authorized and directed that the number of shares of the Series D-1 Preferred Stock be increased from 6,200,000 shares to 6,300,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized President and Chief Executive Officer as of the 22nd day March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley
Ben Shappley
Its President and Chief Executive Officer

CERTIFICATE OF DECREASE
OF
SERIES A CONVERTIBLE PREFERRED STOCK,
SERIES B CONVERTIBLE PREFERRED STOCK,
SERIES C CONVERTIBLE PREFERRED STOCK
AND
SERIES D CONVERTIBLE PREFERRED STOCK
OF
AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the General Corporation Law of the State of Delaware, (the "***Corporation***")

DOES HEREBY CERTIFY:

The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "***Restated Certificate***"), and said Restated Certificate was amended by (a) a Certificate of Designation of Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation of Series D Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) Certificates of Designation of Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock and Series D-1 Convertible Preferred Stock filed on March 19, 2010, (g) a Certificate of Amendment filed on March 19, 2010, and (h) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010.

That the Board of Directors of the Corporation, acting through its duly authorized and empowered Series E Offering Committee, in accordance with provisions of section 151(g) of the General Corporation Law of the State of Delaware, on March 24, 2010 duly adopted resolutions authorizing and directing a decrease in the number of shares designated as:

(a) Series A Convertible Preferred Stock, par value $.01 per share, of the Corporation from 16,150,000 shares to 5,800,000;

(b) Series B Convertible Preferred Stock, par value $.01 per share, of the Corporation from 6,000,000 shares to 2,300,000;

(c) Series C Convertible Preferred Stock, par value $.01 per share, of the Corporation from 9,700,000 shares to 5,400,000; and

(d) Series D Convertible Preferred Stock, par value $.01 per share, of the Corporation from 26,000,000 shares to 8,200,000.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Decrease to be signed by its duly authorized officer this 25th day of March, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley
Ben Shappley
Its President and Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES E CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the Delaware General Corporation Law (the "***Corporation***") does hereby certify:

FIRST: The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "Restated Certificate"), and said Restated Certificate was amended by (a) a Certificate of Designation of Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation of Series D Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) Certificates of Designation of Series E Convertible Preferred Stock, Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock, Series D-1 Convertible Preferred Stock filed on March 19, 2010, (g) a Certificate of Amendment filed on March 19, 2010, (h) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010, and (i) a Certificate of Decrease of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock was filed on March 25, 2010;

SECOND: The Board of Directors of the Corporation, by resolution adopted as of September [14], 2010, duly authorized and directed that the number of shares of the Series E Preferred Stock be increased from 17,400,000 shares to 31,150,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized President and Chief Executive Officer as of the 20th day September, 2010.

AMEDICA CORPORATION

By: /s/ Ben Shappley
Ben Shappley
Its President and Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES C CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the Delaware General Corporation Law (the "***Corporation***") does hereby certify:

FIRST: The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "Restated Certificate"), and said Restated Certificate was amended by (a) a Certificate of Designation of Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation of Series D Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) Certificates of Designation of Series E Convertible Preferred Stock, Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock, Series D-1 Convertible Preferred Stock filed on March 19, 2010, (g) a Certificate of Amendment filed on March 19, 2010, (h) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010, (i) a Certificate of Decrease of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock filed on March 25, 2010, and (j) a Certificate of Increase of Series E Convertible Preferred Stock filed on September 20, 2010; and

SECOND: The Board of Directors of the Corporation, by resolution adopted as of April 30, 2012, duly authorized and directed that the number of shares of the Series C Convertible Preferred Stock be increased from 5,400,000 shares to 7,900,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized President and Chief Executive Officer as of the 10th day May, 2012.

AMEDICA CORPORATION

By: /s/ Eric K. Olson
Eric K. Olson,
Its President and Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES D CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the Delaware General Corporation Law (the "***Corporation***") does hereby certify:

FIRST: The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "Restated Certificate"), and said Restated Certificate was amended by (a) a Certificate of Designation of Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation of Series D Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) Certificates of Designation of Series E Convertible Preferred Stock, Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock, Series D-1 Convertible Preferred Stock filed on March 19, 2010, (g) a Certificate of Amendment filed on March 19, 2010, (h) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010, (i) a Certificate of Decrease of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock filed on March 25, 2010, and (j) a Certificate of Increase of Series E Convertible Preferred Stock filed on September 20, 2010, (k) a Certificate of Increase of Series C Convertible Preferred Stock filed May 10, 2012; (l) a Certificate of Decrease of Series E Convertible Preferred Stock filed on December 14, 2012; and

SECOND: The Board of Directors of the Corporation, by resolution adopted as of December 14, 2012, duly authorized and directed that the number of shares of the Series D Convertible Preferred Stock be increased from 8,200,000 shares to 8,300,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized President and Chief Executive Officer as of the 14 day December, 2012.

AMEDICA CORPORATION

By: /s/ Eric K. Olson
Eric K. Olson,
Its President and Chief Executive Officer

CERTIFICATE OF DECREASE

OF

SERIES E CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the General Corporation Law of the State of Delaware, (the "***Corporation***")

DOES HEREBY CERTIFY:

The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "***Restated Certificate***"), and said Restated Certificate was amended by (a) a Certificate of Designation of Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation of Series D Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) Certificates of Designation of Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock and Series D-1 Convertible Preferred Stock filed on March 19, 2010, (g) a Certificate of Amendment filed on March 19, 2010, (h) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010, (i) a Certificate of Decrease of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock filed on March 25, 2010, (j) a Certificate of Increase of Series E Convertible Preferred Stock filed on September 20, 2010, (k) a Certificate of Increase of Series C Convertible Preferred Stock filed May 10, 2012; and

That the Board of Directors of the Corporation, in accordance with provisions of section 151(g) of the General Corporation Law of the State of Delaware, on December 14, 2012 duly adopted resolutions authorizing and directing a decrease in the number of shares designated as Series E Convertible Preferred Stock, par value $.01 per share, of the Corporation from 31,150,000 shares to 16,200,000.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Decrease to be signed by its duly authorized officer this 14 day of December, 2012.

AMEDICA CORPORATION

By: /s/ Eric K. Olson
Eric K. Olson
Its President and Chief Executive Officer

CERTIFICATE OF DESIGNATION, PREFERENCES,

AND RIGHTS OF

SERIES F CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

Amedica Corporation, a Delaware corporation (the "***Corporation***"), does hereby certify that, pursuant to the authority conferred on the Board of Directors of the Corporation by the Restated Certificate of Incorporation of the Corporation, as amended, and pursuant to the provisions of Section 151 of Title 8, Chapter 1 of the Delaware Code, the Board of Directors, by written consent of its members dated November 28, 2012, adopted a resolution providing for the designation, powers, preferences and relative, participating, optional or other rights, and qualifications, limitations or restrictions thereof, of 15,210,000 shares of the Corporation's Preferred Stock, $0.01 par value per share, which resolution is as follows:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation in accordance with the provisions of the Restated Certificate of Incorporation of the Corporation, as amended to date, the Board of Directors hereby designates a series of Preferred Stock of the Corporation, par value $0.01 per share (the "***Preferred Stock***"), consisting of 15,210,000 shares of the authorized, unissued and undesignated Preferred Stock, as Series F Convertible Preferred Stock (the "***Series F Preferred Stock***"), and hereby fixes such designation and number of shares, and the powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations and restrictions thereof as set forth below, and that the officers of the Corporation, and each acting singly, are hereby authorized, empowered and directed to file with the Secretary of State of the State of Delaware a Certificate of Designation, Preferences and Rights of the Series F Convertible Preferred Stock, as such officer or officers shall deem necessary or advisable to carry out the purposes of this Resolution.

Series F Convertible Preferred Stock. The preferences, privileges and restrictions granted to or imposed upon the Corporation's Series F Convertible Preferred Stock, $0.01 par value per share (the "***Series F Preferred Stock***"), or the holders thereof, are as follows:

1. Liquidation Rights.

(a) Treatment at Liquidation, Dissolution or Winding Up. In the event of any liquidation, dissolution or winding up of the affairs of the Corporation, whether voluntary or involuntary:

(i) The holders of Series F Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital

stock, before any payment shall be made to the holders of the Corporation's Series A Convertible Preferred Stock, $0.01 par value per share (the "***Series A Preferred Stock***"), Series A-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series A-1 Preferred Stock***"), Series B Convertible Preferred Stock, $0.01 par value per share (the "***Series B Preferred Stock***"), Series B-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series B-1 Preferred Stock***"), Series C Convertible Preferred Stock, $0.01 par value per share (the "***Series C Preferred Stock***"), Series C-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series C-1 Preferred Stock***"), Series D Convertible Preferred Stock, $0.01 par value per share (the "***Series D Preferred Stock***"), Series D-1 Convertible Preferred Stock, $0.01 par value per share (the "***Series D-1 Preferred Stock***") and Series E Convertible Preferred Stock, $0.01 par value per share (the "***Series E Preferred Stock***"; with the Series A Preferred stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock being referred herein collectively as the "***Series A-E Preferred Stock***"), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to the Series F Preferred Stock, an amount equal to $2.00 per share (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to Series F Preferred Stock and such amount, as so adjusted from time to time, is hereinafter referred to herein as the "***Base Series F Liquidation Price***"), plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series F Preferred Stock with respect to such liquidation, dissolution or winding up. If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series F Preferred Stock of the amounts distributable to them under this Section 1(a)(i), then the entire assets of the Corporation available for such distribution shall be distributed ratably among the holders of Series F Preferred Stock.

(ii) Following payment in full to the holders of Series F Preferred Stock of all amounts distributable to them pursuant to Section 1(a)(i) hereof, the holders of Series A-E Preferred Stock shall be entitled to be paid out of the assets of the Corporation available for distribution to holders of the Corporation's capital stock, before any payment shall be made to the holders of the Corporation's Common Stock, $0.01 par value per share (the "***Common Stock***"), and before payment or distribution of any of such assets to the holders of any other class or series of the Corporation's capital stock designated to be junior to any class of Series A-E Preferred Stock, an amount equal to the original purchase price per share of each applicable class of Series A-E Preferred Stock plus all dividends declared but unpaid to and including the date full payment shall be tendered to the holders of Series A-E Preferred Stock with respect to such liquidation, dissolution or winding up.

(iii) If the assets of the Corporation shall be insufficient to permit the payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(ii) hereof, then the entire assets of the

Corporation available for such distribution shall be distributed ratably among the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, and Series E Preferred Stock.

(iv) Following payment in full to the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock of all amounts distributable to them under Section 1(a)(ii) hereof, the remaining assets of the Corporation shall be distributed on a pro rata basis among the holders of the Common Stock.

(b) Treatment of Reorganizations, Consolidations, Mergers and Sales of Assets. A Reorganization (as defined in Subsection 2(d)(vi) hereof) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1; ***provided***, ***however***; that the holders of at least a majority of the outstanding shares of the Series F Preferred Stock upon the occurrence of a Reorganization shall have the option to elect to cause all holders of Series F Preferred Stock to receive the benefits of Subsection 2(d)(vi) hereof for the Series F Preferred Stock in lieu of receiving payment in liquidation, dissolution or winding up of the Corporation pursuant to this Section 1. The provisions of this Subsection 1(b) shall not apply to any Reorganization involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America.

(c) Distributions other than Cash. Whenever the distribution provided for in this Section 1 shall be payable in property other than cash, the value of such distribution shall be the fair market value of such property as determined in good faith by the Board of Directors of the Corporation.

The holders of at least a majority of the outstanding shares of the Series F Preferred Stock, voting as a class, shall have the right to challenge any determination by the Board of Directors of fair market value pursuant to this Section 1(c), in which case the determination of fair market value shall be made by an independent appraiser selected jointly by the Board of Directors and the challenging parties, the cost of such appraisal to be borne equally by the Corporation and the challenging parties.

2. Conversion. The holders of Series F Preferred Stock shall have conversion rights as follows (the "***Conversion Rights***"):

(a) Right to Convert; Conversion Price. Each share of Series F Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series F Preferred Stock into a number of fully paid and non-assessable shares of Common Stock based on the conversion ratio established as is determined by dividing the original purchase price per share for the Series F Preferred Stock of $2.00 by the applicable Conversion Price for the Series F Preferred Stock, as defined below (the "***Conversion***

Ratio”). The initial Conversion Ratio shall be 1:1. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by a holder of Series F Preferred Stock (the “***Conversion Price***”) shall initially be $2.00. Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series F Preferred Stock is convertible, as hereinafter provided.

(b) Mechanics of Conversion. Before any holder of Series F Preferred Stock shall be entitled to convert the same into shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Series F Preferred Stock, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series F Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series F Preferred Stock, or to such holder’s nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Series F Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date. In the event that at the time of conversion pursuant to this Section 2 there shall be any declared but unpaid cash dividends outstanding with respect to the shares of Series F Preferred Stock surrendered for conversion, such unpaid dividends shall be paid in shares of Common Stock at a rate determined by dividing the cash value of the unpaid dividends per share by the then applicable Conversion Price.

(c) Automatic Conversion.

(i) Special Definitions. For purposes of this Section 2(c), the following definitions shall apply:

(A) “***Change of Control***” shall mean the occurrence of (i) an event in which one person or a group of related persons (other than holders of Common Stock and Preferred Stock before such event) acquire more than 50% of the common stock equivalent equity securities of the Corporation pursuant to which the Corporation’s stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or (ii) the sale of all or substantially all the assets of the Corporation, except that any internal restructuring or re-organization of the Corporation that does not change the effective ultimate ownership of the Corporation shall not be deemed a Change of Control.

(B) “***Change of Control Price per Share***” shall mean the total price paid to affect a Change of Control divided by the total number of common stock equivalent securities of the Corporation outstanding on a fully diluted basis upon the occurrence of a Change of Control.

(C) “***Qualified Public Offering***” shall mean the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at a price per share not less than the then applicable Conversion Price (which amount shall be subject to equitable adjustment whenever there shall occur a stock split, stock dividend, distribution, combination of shares, recapitalization, reclassification or other similar event with respect to the Common Stock).

(D) “***Qualified Initial Public Offering Price***” means the price per share of Common Stock as determined by the underwriters in the event of a Qualified Initial Public Offering.

(E) “***Threshold Conversion Price***” means $3.00 initially and such price hereafter may be adjusted to account for the effect of any stock split, reverse stock split, stock dividend, recapitalization and other events having a similar effect.

(ii) In the event of the occurrence of a Change of Control or a Qualified Public Offering and the Change of Control Price per Share or the Qualified Initial Public Offering Price, as the case may be, exceeds the Threshold Conversion Price, then the number of shares of Series F Preferred Stock held by each holder thereof shall automatically shall be converted into shares of Common Stock at the conversion rate equal to *the lesser of* (i) 80% of the Qualified Initial Public Offering Price or the Change of Control Price per Share, as the case may be, or (ii) $2.00 per share of Common Stock (such $2.00 per share amount subject to adjustment to account for the effect of any stock splits, reverse stock split, stock dividend, recapitalization and other events having a similar effect).

(iii) Upon the occurrence of a Qualified Initial Public Offering hereof, all shares of Series F Preferred Stock shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the transfer agent for the Series F Preferred Stock; ***provided***, ***however***, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series F Preferred Stock were convertible unless the certificate or certificates representing such shares of Series F Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series F Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(iv) Upon the automatic conversion of Series F Preferred Stock, each holder of Series F Preferred Stock shall surrender the certificate or certificates representing such holder’s shares of Series F Preferred Stock at the office of the Corporation or of the transfer

agent for the Series F Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series F Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series F Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(d) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For purposes of this Section 2(d), the following definitions shall apply:

(A) "***Option***" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common Stock or Convertible Securities.

(B) "***Original Issue Date***" shall mean the date on which shares of Series F Preferred Stock were first issued.

(C) "***Convertible Securities***" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options and any shares of Series F Preferred Stock.

(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock or Series F Preferred Stock;

(II) Options, equity compensation awards or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors;

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D

Preferred into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively;

(IV) up to 7,443,750 shares of Common Stock issued or issuable upon the exercise of any currently outstanding warrants issued by the Corporation during the period beginning on March 4, 2011 and ending on February 15, 2012 in connection with the Corporation's offering of its Senior Secured Subordinated Convertible Promissory Notes (such number of shares being subject to adjustment as described in such warrants).

(V) up to 322,500 shares of Common Stock issuable upon conversion of shares of Preferred Stock issuable upon exercise of warrants to be issued by the Corporation to one or more senior commercial lending institutions (such number of shares being subject to adjustment as described in such warrants).

(ii) Deemed Issuance of Additional Shares of Common Stock.

(A) Options and Convertible Securities. In the event the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding any Options or Convertible Securities which are Excluded Shares) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date; provided that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share (determined pursuant to Section 2(d)(v) hereof) of such Additional Shares of Common Stock would be less than the Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided further that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(I) no further adjustment in the Conversion Price shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(II) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Corporation, or any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities;

(III) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then

issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 2(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(IV) no readjustment pursuant to clause (II) or (III) above shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (a) the Conversion Price on the original adjustment date, or (b) the Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such readjustment date;

(V) in the case of any Options which expire by their terms not more than 30 days after the date of issue thereof, no adjustment of the Conversion Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in clause (III) above; and

(VI) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the actual date of their issuance.

(B) Stock Dividends, Stock Distributions and Subdivisions. In the event the Corporation at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(I) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution, or

(II) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which the corporate action becomes effective.

If such record date shall have been fixed and no part of such dividend shall have been paid on the date fixed therefor, the adjustment previously made for the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 2(d)(ii) as of the time of actual payment of such dividend.

(iii) Adjustment for Dividends, Distributions, Subdivisions, Combinations or Consolidations of Common Stock.

(A) Stock Dividends, Distributions or Subdivisions. In the event the Corporation shall be deemed to have issued Additional Shares of Common Stock pursuant to Section 2(d)(ii)(B) in a stock dividend, stock distribution or subdivision, the Conversion Price in effect immediately prior to such stock dividend, stock distribution or subdivision shall, concurrently with the effectiveness of such stock dividend, stock distribution or subdivision, be proportionately decreased.

(B) Combinations or Consolidations. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the Conversion Price in effect immediately prior to such combination or consolidation shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. If the Corporation shall, at any time or from time to time after the Original Issue Date, issue (or be deemed to have issued pursuant to Section 2(d)(ii)) any shares of Common Stock (other than Excluded Shares), without consideration or for consideration per share less than the Conversion Price in effect immediately prior to such issuance, then the Conversion Price shall forthwith be lowered (but in no event increased) to a price equal to the lowest consideration per share for which such shares of Common Stock are issued (or deemed to be issued); ***provided***, that in no event shall the Conversion Price be reduced below the par value of one share of Common Stock. Any such adjustment shall become effective immediately after the opening of business on the day following the issuance (or deemed issuance) of such shares of Common Stock.

(v) Determination of Consideration. For purposes of this Section 2(d), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(A) Cash and Property. Such consideration shall:

(I) Insofar as it consists of cash, be computed at the aggregate amounts of cash received by the Corporation excluding amounts paid or payable for accrued interest or accrued dividends;

(II) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(III) In the event that Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (I) and (II) above, as determined in good faith by the Board of Directors.

(B) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 2(d)(ii)(A), relating to Options and Convertible Securities, shall be determined by dividing (I) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by (II) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(vi) Capital Reorganization, Merger or Sale of Assets. If at any time or from time to time there shall be a capital reorganization of the Common Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in this Section 2) or a consolidation or merger of the Corporation, or a sale of all or substantially all of the assets of the Corporation, other than a merger, consolidation or sale of all or substantially all of the assets of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting securities of the surviving entity (or parent, if any) immediately after the transaction (a "***Reorganization***"), then, as a part of and as a condition to such Reorganization, provision shall be made so that the holders of shares of the Series F Preferred Stock shall thereafter be entitled to receive upon conversion of the shares of the Series F Preferred Stock the same kind and amount of stock or other securities or property (including cash) of the Corporation, or of the successor corporation resulting from such Reorganization, as such holders would have been entitled to receive if they had converted their shares of the Series F Preferred Stock into shares of Common Stock immediately prior to the effective time of such Reorganization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 2 to the end that the provisions of this Section 2 (including adjustment of the Conversion Price then in effect and the number of shares of Common Stock or other securities issuable upon conversion of the shares of the Series F Preferred Stock) shall be applicable after such Reorganization in as nearly equivalent a manner as may be reasonably practicable.

The Corporation shall furnish holders of shares of Series F Preferred Stock at least fifteen (15) days' prior written notice of each Reorganization, which notice shall set forth in detail all material terms of the Reorganization. In the case of a Reorganization to which both this Subsection 2(d)(vi) and Subsection 1(b) hereof apply, the holders of Series F Preferred Stock shall have the option to elect, by the consent of at least a majority of the then outstanding Series F Preferred Stock, treatment under this Subsection 2(d)(vi), notice of which election shall be given in writing to the Corporation not less than five (5) business days prior to the effective date of such Reorganization, in which case Subsection 2(d)(vi) shall apply to all outstanding shares of Series F Preferred Stock upon the effectiveness of the Reorganization. If no such election is timely made, the provisions of Subsection 1(b) and not this Subsection 2(d)(vi) shall apply.

The provisions of this Subsection 2(d)(vi) shall not apply to any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation or (2) a merger of the Corporation with or into a wholly owned subsidiary of the Corporation which is incorporated in the United States of America.

(e) No Impairment. The Corporation shall not, by amendment of its Restated Certificate of Incorporation, as amended, or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series F Preferred Stock against impairment.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price or Conversion Ratio pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Series F Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Series F Preferred Stock, furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price or Conversion Ratio at the time in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Series F Preferred Stock.

(g) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series F Preferred Stock.

(h) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Series F Preferred Stock; ***provided***, ***however***, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Series F Preferred Stock.

(i) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Series F Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Series F Preferred Stock in any manner which interferes with the timely conversion or transfer of such Series F Preferred Stock.

3. Voting Rights.

(a) Except as otherwise required by law or this Certificate of Designation, the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock, Series F Preferred Stock and Common Stock shall be entitled to notice of any stockholders' meeting and to vote as a single class upon any matter submitted to the stockholders for a vote as set forth in Section 3(b); ***provided***, ***however***, that, except as otherwise required by law, the holders of the Series F Preferred Stock shall vote as a separate class with respect to any matter or proposed action as to which applicable law or this Certificate of Designation requires or permits the vote, consent, or approval of the holders of the Series F Preferred Stock.

(b) (i) Holders of Common Stock shall have one vote per share of Common Stock held by them; and

(ii) Holders of Series F Preferred Stock shall have that number of votes per share of Series F Preferred Stock as is equal to the number of shares of Common Stock into which each such share of Series F Preferred Stock held by such holder could be converted on the date for determination of stockholders entitled to vote at the meeting.

(c) In addition to such other votes as are required by law, unless there is an affirmative vote of at least a majority of the then outstanding shares of Series F Preferred Stock, voting separately as a class, the Corporation shall not undertake any of the following:

(i) any declaration or payment of any dividend or other distribution or payment on the (or the redemption, purchase or other acquisition for value of any) capital stock of the Corporation (other than the Series F Preferred Stock) or any of its subsidiaries;

(ii) any liquidation, dissolution, recapitalization or reorganization of the Corporation;

(iii) any transfer or disposition of assets or rights with a value of more than $1,000,000 (except for transfers or dispositions of assets or rights in the ordinary course of the Corporation's business, and except in connection with the Corporation entering into strategic collaborations, licenses and other similar arrangements approved by its Board of Directors); or

(iv) any amendment of the Corporation's Restated Certificate of Incorporation, as amended, that would adversely change or alter any of the preferences, powers, rights or privileges of the Series F Preferred Stock.

4. Dividends.

(a) If the Board of Directors shall declare a dividend on the capital stock of the Corporation, the holders of Series F Preferred Stock shall be entitled to receive such dividends ***pari passu*** with the holders of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock and Series E Preferred Stock, and in preference to any dividend on the Common Stock or any other class or series of capital stock ranking junior to the Series F Preferred Stock. No dividends or distributions shall be declared and paid on the Common Stock or any such junior stock unless and until all dividends declared on the Series F Preferred Stock shall have been paid in full.

(b) If, upon the approval of the holders of Series F Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon the then outstanding shares of the Common Stock (other than a dividend payable entirely in shares of the Common Stock of the Corporation), then the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of the Series F Preferred Stock, payable at the same time as the dividend paid on the Common Stock, in an amount equal to the amount of dividends per share of Series F Preferred Stock as would have been payable on the largest number of whole shares of Common Stock which each share of Series F Preferred Stock held by each holder thereof would have received if such Series F Preferred Stock had been converted into Common Stock pursuant to the provisions of Section 2 hereof as of the record date for the determination of holders of Common Stock entitled to receive such dividends; and

(c) If, upon the approval of the holders of Series F Preferred Stock as required by Section 3(c)(i) hereof, the Board of Directors of the Corporation shall declare a dividend payable upon any class or series of capital stock of the Corporation other than Common Stock, the Board of Directors shall declare at the same time a dividend upon the then outstanding shares of Series F Preferred Stock, payable at the same time as such dividend on such other class or series of capital stock in an amount equal to (i) in the case of any series or class convertible into Common Stock, that dividend per share of Series F Preferred Stock as would equal the dividend payable on such other class or series determined as if all such shares of such class or series had been converted to Common Stock and all shares of Series F Preferred Stock have been converted to Common Stock on the record date for the determination of holders entitled to receive such dividend or (ii) if such class or series of capital stock is not convertible into Common Stock, at a rate per share of Series F Preferred Stock determined by dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock and multiplying such fraction by the Base Series F Liquidation Price then in effect.

5. Covenants. The Corporation shall not undertake any amendment of this Certificate of Designation or the Corporation's Restated Certificate of Incorporation, as amended, if such amendment would alter or change the powers, preferences or special rights of the holders of the shares of Series F Preferred Stock so as to affect them adversely; ***provided***, ***however***, that the designation and issuance of any additional classes or series of Preferred Stock expressly shall not be deemed to adversely affect the powers, preferences or special rights of the holders of shares of Series F Preferred Stock. The holders of at least a majority of the number of shares of Series F Preferred Stock outstanding may, by affirmative vote or consent, agree to a change or alteration by the Corporation in the powers, preferences and special rights of the Series F Preferred Stock, or may waive the application thereof in any particular instance.

6. No Reissuance of Series F Preferred Stock. No share or shares of Series F Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

7. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series F Preferred Stock shall be vested in the Common Stock.

[REMAINDER INTENTIONALLY BLANK, SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Designation to be signed by its duly authorized officer this 14 day of December, 2012.

AMEDICA CORPORATION

By: /s/ Eric K. Olson
Name: Eric K. Olson
Title: President and Chief Executive Officer

CERTIFICATE OF AMENDMENT

TO

RESTATED CERTIFICATE OF INCORPORATION

OF

AMEDICA CORPORATION
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

Amedica Corporation, a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is Amedica Corporation (the "***Corporation***").

2. The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "***Base Restated Certificate***"), and said Base Restated Certificate was amended by (a) a Certificate of Designation for Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation for Series D Convertible Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment respectively filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) a Certificate of Designation for Series E Convertible Preferred Stock filed March 19, 2010, (g) Certificates of Designation of Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock and Series D-1 Convertible Preferred Stock filed on March 19, 2010, (h) a Certificate of Amendment filed on March 19, 2010, (i) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010, (j) a Certificate of Decrease of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock filed on March 25, 2010, (k) a Certificate of Increase of Series E Convertible Preferred Stock filed on September 20, 2010, (l) a Certificate of Increase of Series C Convertible Preferred Stock filed May 10, 2012, (m) a Certificate of Increase of Series D Convertible Preferred Stock and a Certificate of Decrease of Series E Convertible Preferred Stock, each filed on December 14, 2012, and (n) a Certificate of Designation of Series F Convertible Preferred Stock filed on December 14, 2012 (the "***Series F Certificate of Designation***").

3. The Base Restated Certificate, as amended, is hereby further amended to clarify the conversion rights of the Series F Convertible Preferred Stock of the Corporation as follows:

A. The last sentence of Section 2(a) of the Series F Certificate of Designation is deleted in its entirety, and the following sentence is inserted in place thereof:

"Such initial Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which Series F Preferred Stock is convertible, as hereinafter provided, and further, such initial Conversion Price shall be subject to Section 2(c)(iii) and 2(c)(iv) hereof."

B. Section 2(c) of the Series F Certificate of Designation is deleted in its entirety, and the following Section 2(c) is inserted in place thereof:

"(c) Automatic Conversion upon Qualified Initial Public Offering; Price Protection in the Event of an Initial Public Offering or Change of Control.

(i) Special Definitions. For purposes of this Section 2(c), the following definitions shall apply:

(A) "***Change of Control***" shall mean the occurrence of (i) an event in which one person or a group of related persons (excluding holders of Common Stock and Preferred Stock immediately prior to such event) acquire more than 50% of the common stock equivalent securities of the Corporation, (ii) a consolidation or merger of the Corporation pursuant to which the Corporation's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the Corporation or the surviving corporation immediately following such transaction, or (iii) the sale of all or substantially all the assets of the Corporation; *provided, however*, that any internal recapitalization of the Corporation, reclassification of its capital stock or other similar event such that holders of the Corporation's outstanding securities entitling such holders to cast votes immediately prior to such event continue to hold outstanding securities entitling such holders to cast a majority of all votes that may be cast immediately following such event shall not be deemed a Change of Control.

(B) "***Change of Control Price Per Common Equivalent Share***" shall mean (I) the aggregate amount of consideration paid, payable or escrowed, including any contingent consideration and assumption of indebtedness to effect a Change of Control, divided by (II) the total number of outstanding common stock equivalent securities of the Corporation, on a fully diluted basis (including such rights, options, warrants to subscribe for purchase or otherwise acquire Common Stock, and evidence of indebtedness, shares and other securities directly or indirectly convertible into or exchangeable for Common Stock as the Board of Directors shall determine), upon the occurrence of a Change of Control. The consideration paid, payable or escrowed, including any contingent consideration and assumption of indebtedness in connection with a Change of Control shall be the sum of (x) the aggregate amounts of cash paid, payable, escrowed or contingently payable to the Corporation and its stockholders, (y) insofar as such

consideration shall consist of property or securities other than cash, such property and securities shall be equal to their respective fair market value at the time of the closing of the Change of Control transaction, as determined in good faith by the Board of Directors, and (z) insofar as such consideration shall consistent of the assumption of the Corporation's indebtedness, such amount of indebtedness assumed shall be equal to all unpaid principal, interest and other payments that remain unpaid at the time of the closing of the Change of Control transaction, as determined in good faith by the Board of Directors, and any such determination by the Board of Directors shall be binding on the Corporation and holders of Series F Preferred Stock. In addition, the Board of Directors shall determine the total number of outstanding common stock equivalent securities of the Corporation, on a fully diluted basis, for purposes of the denominator, and any such determination by the Board of Directors shall be binding on the Corporation and holders of Series F Preferred Stock.

(C) "***Initial Public Offering***" shall mean the closing of the first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale to the public of Common Stock for the account of the Corporation.

(D) "***Initial Public Offering Price***" means the price per share to the public of Common Stock in the event of an Initial Public Offering.

(E) "***Qualified Initial Public Offering***" shall mean the closing of an Initial Public Offering at an Initial Public Offering Price not less than the applicable Conversion Price in effect immediately prior to such Initial Public Offering.

(ii) Upon the closing of a Qualified Initial Public Offering, each share of Series F Preferred Stock shall automatically be converted into such number of fully paid and nonassessable shares of Common Stock without any further action by any holder of such share of Series F Preferred Stock and whether or not the certificate or certificates representing such share are surrendered to the Corporation or the transfer agent for the Series F Preferred Stock, at a Conversion Ratio calculated using the Conversion Price determined pursuant to paragraph (iii) below. In the event, however, the Corporation seeks to close an Initial Public Offering that is not a Qualified Initial Public Offering, including by seeking to effect a further amendment the Base Restated Certificate or otherwise, upon the occurrence of such an Initial Public Offering, the Conversion Ratio applicable to each share of Series F Preferred Stock shall be calculated using the Conversion Price determined pursuant to paragraph (iii) below.

(iii) If the Initial Public Offering Price is equal to or greater than $2.50 (such per share amount shall be subject to adjustment to account for the effect of any stock split, stock dividend, distribution of shares, reverse stock split, combination of shares, recapitalization, reclassification and other similar event with respect to the Common

Stock occurring prior to the occurrence of the Initial Public Offering), then the Conversion Price used to calculate the Conversion Ratio shall be equal to the applicable Conversion Price then in effect immediately prior to the closing of the Initial Public Offering. If, however, the Initial Public Offering Price is less than $2.50 (such per share amount shall be subject to adjustment to account for the effect of any stock split, stock dividend, distribution of shares, reverse stock split, combination of shares, recapitalization, reclassification and other similar event with respect to the Common Stock occurring prior to the occurrence of the Initial Public Offering), then the Conversion Price used to calculate the Conversion Ratio (whether shares of Series F Preferred Stock convert automatically pursuant to Section 2(c)(ii) hereof, voluntarily or otherwise) shall be equal to *the lesser of* (A) 80% of the Initial Public Offering Price and (B) the applicable Conversion Price then in effect immediately prior to the closing of the Initial Public Offering.

(iv) In the event of the occurrence of a Change of Control and the Change of Control Price Per Common Equivalent Share is equal to or greater than $2.50 (such per share amount shall be subject to adjustment to account for the effect of any stock split, stock dividend, distribution of shares, reverse stock split, combination of shares, recapitalization, reclassification and other similar event with respect to the Common Stock occurring prior to the closing of the Change of Control transaction), then in connection with such transaction and thereafter the Conversion Price used to calculate the Conversion Ratio shall be equal to the applicable Conversion Price then in effect immediately prior to the closing of the Change of Control transaction. If, however, in the event of the occurrence of a Change of Control and the Change of Control Price Per Common Share Equivalent Share is less than $2.50 (such per share amount shall be subject to adjustment to account for the effect of any stock split, stock dividend, distribution of shares, reverse stock split, combination of shares, recapitalization, reclassification and other similar event with respect to the Common Stock occurring prior to the closing of the Change of Control transaction), then in connection with such transaction and thereafter the Conversion Price used to calculate the Conversion Ratio shall be equal to of *the lesser of* (A) 80% of the Change of Control Price Per Common Equivalent Share, and (B) the applicable Conversion Price then in effect immediately prior to the closing of the Change of Control transaction.

(v) Upon the conversion of Series F Preferred Stock upon the occurrence of a Qualified Initial Public Offering or an Initial Public Offering, or in the event of the automatic, voluntary or other conversion of Series F Preferred Stock upon or following the occurrence of a Change of Control, each holder of Series F Preferred Stock shall surrender the certificate or certificates representing such holder’s shares of Series F Preferred Stock at the office of the Corporation or of the transfer agent for the Series F Preferred Stock. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder’s name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series F Preferred Stock surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall

be issued upon the automatic conversion of Series F Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(vi) The Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such each such share of Series F Preferred Stock are convertible unless the certificate or certificates representing such shares of Series F Preferred Stock being converted are either delivered to the Corporation or the transfer agent of the Series F Preferred Stock, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity."

C. Section 2(d)(i)(D) of the Series F Certificate of Designation is deleted in its entirety, and the following Section 2(d)(i)(D) is inserted in place thereof:

"(D) "***Additional Shares of Common Stock***" shall mean all shares of Common Stock issued, or deemed to be issued pursuant to Section 2(d)(ii), by the Corporation after the Original Issue Date, other than the following (collectively, the "***Excluded Shares***"):

(I) shares of Common Stock issued or issuable as a dividend or distribution on, or resulting from conversion of, shares of Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series B-1 Preferred Stock, Series C Preferred Stock, Series C-1 Preferred Stock, Series D Preferred Stock, Series D-1 Preferred Stock, Series E Preferred Stock or Series F Preferred Stock;

(II) Options, equity compensation awards or shares of Common Stock issued or issuable pursuant to the Corporation's 2003 Stock Option Plan or pursuant to any stock option or other equity compensation plan of the Corporation approved by its Board of Directors including, but not limited to, its 2012 Employee, Director and Consultant Equity Incentive Plan;

(III) shares of Common Stock which become issuable resulting from conversion of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred into shares of the appropriate corresponding series of Series A-1 Preferred Stock, Series B-1 Preferred Stock, Series C-1 Preferred Stock and Series D-1 Preferred Stock, respectively;

(IV) up to 7,443,750 shares of Common Stock issued or issuable upon the exercise of any currently outstanding warrants issued by the Corporation during the period beginning on March 4, 2011 and ending on February 15, 2012 in connection with the Corporation's offering of its Senior Secured Subordinated Convertible Promissory Notes (such number of shares being subject to adjustment as described in such warrants).

(V) up to 322,500 shares of Common Stock issuable upon conversion of shares of Preferred Stock issuable upon exercise of warrants to be issued by the Corporation to one or more senior commercial lending institutions (such number of shares being subject to adjustment as described in such warrants).

(VI) shares of Common Stock or Series E Preferred Stock issued or issuable pursuant to the grant of options, warrants, restricted stock awards or other similar awards issued or issuable pursuant to that certain Agreement and Plan of Merger dated as of September 17, 2010, by and among the Corporation, Amedica Acquisition Sub, Inc. and US Spine, Inc., as amended and as amended following the date of this Certificate of Amendment, as "Incentive Shares" thereunder.

(VII) warrants issuable by the Corporation's in connection with its 2013 private placement of shares of Series F Preferred Stock, and shares of Common Stock issuable upon the issuance and exercise of such warrants."

4. Pursuant to Section 228(a) of the General Corporation Law of the State of Delaware, the holders of outstanding shares of the Corporation having no less than the minimum number of votes that would be necessary to authorize or take such actions at a meeting at which all shares entitled to vote thereon were present and voted, consented to the adoption of the aforesaid amendments without a meeting, without a vote and without prior notice, and written notice of the taking of such actions was given in accordance with Section 228(e) of the General Corporation Law of the State of Delaware.

5. The amendment of the Restated Certificate, as amended, as herein certified has been duly adopted in accordance with the provisions of Sections 242 of the General Corporation Law of the State of Delaware.

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to Restated Certificate of Incorporation to be signed by its duly authorized officer 27th day of August, 2013.

AMEDICA CORPORATION

By: /s/ Eric K. Olson
Eric K. Olson
President and Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES F CONVERTIBLE PREFERRED STOCK

OF

AMEDICA CORPORATION

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Amedica Corporation, a corporation organized and existing under the Delaware General Corporation Law (the "***Corporation***") does hereby certify:

FIRST: The date of filing of the Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was December 10, 1996 under the name Amedica Corp. A Restated Certificate of Incorporation of the Corporation was filed on October 25, 2004 (the "***Base Restated Certificate***"), and said Base Restated Certificate was amended by (a) a Certificate of Designation for Series C Convertible Preferred Stock filed on February 24, 2006, (b) a Certificate of Designation for Series D Convertible Preferred Stock filed on April 16, 2007, (c) Certificates of Amendment respectively filed on July 26, 2007 and November 1, 2007, (d) a Certificate of Increase of Series D Convertible Preferred Stock filed on December 21, 2007, (e) a Certificate of Amendment filed on March 1, 2010, (f) a Certificate of Designation for Series E Convertible Preferred Stock filed March 19, 2010, (g) Certificates of Designation of Series A-1 Convertible Preferred Stock, Series B-1 Convertible Preferred Stock, Series C-1 Convertible Preferred Stock and Series D-1 Convertible Preferred Stock filed on March 19, 2010, (h) a Certificate of Amendment filed on March 19, 2010, (i) a Certificate of Increase of Series D-1 Convertible Preferred Stock filed on March 24, 2010, (j) a Certificate of Decrease of the Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock and Series D Convertible Preferred Stock filed on March 25, 2010, (k) a Certificate of Increase of Series E Convertible Preferred Stock filed on September 20, 2010, (l) a Certificate of Increase of Series C Convertible Preferred Stock filed May 10, 2012, (m) a Certificate of Increase of Series D Convertible Preferred Stock and a Certificate of Decrease of Series E Convertible Preferred Stock, each filed on December 14, 2012, (n) a Certificate of Designation of Series F Convertible Preferred Stock filed on December 14, 2012 (the "***Series F Certificate of Designation***"), and (o) a Certificate of Amendment filed on August 27, 2013; and

SECOND: The Board of Directors of the Corporation, by resolution adopted as of June 20, 2013, duly authorized and directed that the number of authorized shares of preferred stock of the Corporation that are designated as Series F Convertible Preferred Stock be increased from 15,210,000 shares to 20,710,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized President and Chief Executive Officer as of the 27th day August, 2013.

AMEDICA CORPORATION

By: /s/ Eric K. Olson

Eric K. Olson,
Its President and Chief Executive Officer

Exhibit 3.3

AMEDICA CORPORATION

AMENDED AND RESTATED
BY-LAWS

ARTICLE I - STOCKHOLDERS

Section 1. Annual Meeting.

An annual meeting of the stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at ten o’clock a.m. or such other time as is determined by the Board of Directors, on such date (other than a Saturday, Sunday or legal holiday) as is determined by the Board of Directors, which date shall be within thirteen (13) months subsequent to the later of the date of incorporation or the last annual meeting of stockholders, and at such place as the Board of Directors shall each year fix.

Section 2. Special Meetings.

Subject to the rights of the holders of any class or series of preferred stock of the Corporation, special meetings of stockholders of the Corporation may be called only by the Board of Directors pursuant to a resolution adopted by a majority of the total number of directors authorized. Special meetings of the stockholders may be held at such place within or without the State of Delaware as may be stated in such resolution.

Section 3. Notice of Meetings.

Written notice of the place, date, and time of all meetings of the stockholders shall be given, not less than ten (10) nor more than sixty (60) days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting, except as otherwise provided herein or required by law (meaning, here and hereinafter, as required from time to time by the Delaware General Corporation Law or the Certificate of Incorporation of the Corporation).

When a meeting is adjourned to another place, date or time, written notice need not be given of the adjourned meeting if the place, date and time thereof are announced at the meeting at which the adjournment is taken; provided, however, that if the date of any adjourned meeting is more than thirty (30) days after the date for which the meeting was originally noticed, or if a new record date is fixed for the adjourned meeting, written notice of the place, date, and time of the adjourned meeting shall be given in conformity herewith. At any adjourned meeting, any business maybe transacted which might have been transacted at the original meeting.

Section 4. *Quorum.*

At any meeting of the stockholders, the holders of a majority of all of the shares of the stock entitled to vote at the meeting, present in person or by proxy, shall constitute a quorum for all purposes, unless or except to the extent that the presence of a larger number may be required by law. Where a separate vote by a class or classes is required, a majority of the shares of such class or classes present in person or represented by proxy shall constitute a quorum entitled to take action with respect to that vote on that matter.

If a quorum shall fail to attend any meeting, the chairman of the meeting or the holders of a majority of the shares of stock entitled to vote who are present, in person or by proxy, may adjourn the meeting to another place, date, or time.

Section 5. *Organization.*

The Chairman of the Board of Directors or, in his or her absence, such person as the Board of Directors may have designated or, in his or her absence, the chief executive officer of the Corporation or, in his or her absence, such person as may be chosen by the holders of a majority of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders and act as chairman of the meeting. In the absence of the Secretary of the Corporation, the secretary of the meeting shall be such person as the chairman of the meeting appoints.

Section 6. *Conduct of Business.*

The Chairman of the Board of Directors or his or her designee or, if neither the Chairman of the Board nor his or her designee is present at the meeting, then a person appointed by a majority of the Board of Directors, shall preside at, and act as chairman of, any meeting of the stockholders. The chairman of any meeting of stockholders shall determine the order of business and the procedures at the meeting, including such regulation of the manner of voting and the conduct of discussion as he or she deems to be appropriate.

Section 7. *Proxies and Voting.*

At any meeting of the stockholders, every stockholder entitled to vote may vote in person or by proxy authorized by an instrument in writing filed in accordance with the procedure established for the meeting.

Each stockholder shall have one (1) vote for every share of stock entitled to vote which is registered in his or her name on the record date for the meeting, except as otherwise provided herein or required by law.

All voting, including on the election of directors but excepting where otherwise required by law, may be by a voice vote; provided, however, that upon demand therefor by a stockholder entitled to vote or his or her proxy, a vote by ballot shall be taken.

Except as otherwise provided in the terms of any class or series of preferred stock of the Corporation, all elections shall be determined by a plurality of the votes cast, and except as otherwise required by law, all other matters shall be determined by a majority of the votes cast.

Section 8. Action Without Meeting.

Any action required to be taken at any annual or special meeting of stockholders, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be (1) signed and dated by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and (2) delivered to the Corporation within sixty (60) days of the earliest dated consent by delivery to its registered office in the State of Delaware (in which case delivery shall be by hand or by certified or registered mail, return receipt requested), its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

Section 9. Stock List.

A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in his or her name, shall be open to the examination of any such stockholder, for any purpose germane to the meeting, during ordinary business hours for a period of at least ten (10) days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or if not so specified, at the place where the meeting is to be held.

The stock list shall also be kept at the place of the meeting during the whole time thereof and shall be open to the examination of any such stockholder who is present. Such list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

ARTICLE II - BOARD OF DIRECTORS

Section 1. Number, Election, Tenure and Qualification.

Except as otherwise specified in the Certificate of Incorporation of the Corporation, the number of directors which shall constitute the whole board shall be determined by resolution of the Board of Directors or by the stockholders at the annual meeting or at any special meeting of stockholders. The directors shall be elected at the annual meeting or at any special meeting of the stockholders, except as provided in Section 2 of this Article, and each director elected shall hold office until his or her successor is elected and qualified, unless sooner displaced. Directors need not be stockholders.

Section 2. Vacancies and Newly Created Directorships.

Subject to the rights of the holders of any class or series of preferred stock of the Corporation to elect directors, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause may be filled only by a majority vote of the directors then in office, though less than a quorum, or the sole remaining director. No decrease in the number of authorized directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 3. Resignation and Removal.

Any director may resign at any time upon written notice to the Corporation at its principal place of business or to the chief executive officer or secretary. Such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some other event. Any director or the entire Board of Directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, unless otherwise specified by law or the Certificate of Incorporation.

Section 4. Regular Meetings.

Regular meetings of the Board of Directors shall be held at such place or places, on such date or dates, and at such time or times as shall have been established by the Board of Directors and publicized among all directors. A written notice of each regular meeting shall not be required.

Section 5. Special Meetings.

Special meetings of the Board of Directors may be called by the Chairman of the Board of Directors, if any, the President, the Treasurer, the Secretary or one or more of the directors then in office and shall be held at such place, on such date, and at such time as they or he or she shall fix. Notice of the place, date, and time of each such special meeting shall be given each director by whom it is not waived by mailing written notice not less than three (3) days before the meeting or orally, by telegraph, telex, cable or telecopy given not less than twenty-four (24) hours before the meeting. Unless otherwise indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 6. Quorum.

At any meeting of the Board of Directors, a majority of the total number of members of the Board of Directors shall constitute a quorum for all purposes. If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, date, or time, without further notice or waiver thereof.

Section 7. Action by Consent.

Unless otherwise restricted by the Certificate of Incorporation or these By-Laws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board or committee, as the case may be, consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the Board or committee.

Section 8. Participation in Meetings By Conference Telephone.

Members of the Board of Directors, or of any committee thereof, may participate in a meeting of such Board or committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other and such participation shall constitute presence in person at such meeting.

Section 9. Conduct of Business.

At any meeting of the Board of Directors, business shall be transacted in such order and manner as the Board may from time to time determine, and all matters shall be determined by the vote of a majority of the directors present, except as otherwise provided herein or required by law.

Section 10. Powers.

The Board of Directors may, except as otherwise required by law, exercise all such powers and do all such acts and things as may be exercised or done by the Corporation, including, without limiting the generality of the foregoing, the unqualified power:

(1) To declare dividends from time to time in accordance with law;

(2) To purchase or otherwise acquire any property, rights or privileges on such terms as it shall determine;

(3) To authorize the creation, making and issuance, in such form as it may determine, of written obligations of every kind, negotiable or nonnegotiable, secured or unsecured, to borrow funds and guarantee obligations, and to do all things necessary in connection therewith;

(4) To remove any officer of the Corporation with or without cause, and from time to time to devolve the powers and duties of any officer upon any other person for the time being;

(5) To confer upon any officer of the Corporation the power to appoint, remove and suspend subordinate officers, employees and agents;

(6) To adopt from time to time such stock, option, stock purchase, bonus or other compensation plans for directors, officers, employees and agents of the Corporation and its subsidiaries as it may determine;

(7) To adopt from time to time such insurance, retirement, and other benefit plans for directors, officers, employees and agents of the Corporation and its subsidiaries as it may determine; and,

(8) To adopt from time to time regulations, not inconsistent with these By-Laws, for the management of the Corporation's business and affairs.

Section 11. Compensation of Directors.

Directors, as such, may receive, pursuant to a resolution of the Board of Directors, fixed fees and other compensation for their services as directors, including, without limitation, their services as members of committees of the Board of Directors.

ARTICLE HI - COMMITTEES

Section 1. Committees of the Board of Directors.

The Board of Directors, by a vote of a majority of the Board of Directors, may from time to time designate committees of the Board, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the Board and shall, for those committees and any others provided for herein, elect a director or directors to serve as the member or members, designating, if it desires, other directors as alternate members who may replace any absent or disqualified member at any meeting of the committee. Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the Certificate of Incorporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease or exchange of all or substantially all of the Corporation's property and assets, recommending to the stockholders a dissolution of the Corporation or a revocation of a dissolution, or amending the By-Laws of the Corporation. Any committee so designated may exercise the power and authority of the Board of Directors to declare a dividend, to authorize the issuance of stock or to adopt a certificate of ownership and merger pursuant to Section 253 of the Delaware General Corporation Law if the resolution which designates the committee or a supplemental resolution of the Board of Directors shall so provide. In the absence or disqualification of any member of any committee and any alternate member in his or her place, the member or members of the committee present at the meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may by unanimous vote appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member.

Section 2. Conduct of Business.

Each committee may determine the procedural rules for meeting and conducting its business and shall act in accordance therewith, except as otherwise provided herein or required bylaw. Adequate provision shall be made for notice to members of all meetings; one-third(1/3) of the members shall constitute a quorum; and all matters shall be determined by a majority vote of the members present. Action may be taken by any committee without a meeting if all members thereof consent thereto in writing, and the writing or writings are filed with the minutes of the proceedings of such committee.

ARTICLE IV - OFFICERS

Section 1. Enumeration.

The officers of the Corporation shall be the President, the Treasurer, the Secretary and such other officers as the Board of Directors or the Chairman of the Board may determine, including, but not limited to, the Chairman of the Board of Directors, one or more Vice Presidents, Assistant Treasurers and Assistant Secretaries.

Section 2. Election.

The Chairman of the Board, if any, the President, the Treasurer and the Secretary shall be elected annually by the Board of Directors at their first meeting following the annual meeting of the stockholders. The Board of Directors or such officer of the Corporation as it may designate, if any, may, from time to time, elect or appoint such other officers as it or he or she may determine, including, but not limited to, one or more Vice Presidents, Assistant Treasurers and Assistant Secretaries.

Section 3. Qualification.

No officer need be a stockholder. The Chairman of the Board, if any, and any Vice Chairman appointed to act in the absence of the Chairman, if any, shall be elected by and from the Board of Directors, but no other officer need be a director. Two or more offices may be held by any one person. If required by vote of the Board of Directors, an officer shall give bond to the Corporation for the faithful performance of his or her duties, in such form and amount and with such sureties as the Board of Directors may determine. The premiums for such bonds shall be paid by the Corporation.

Section 4. Tenure and Removal.

Each officer elected or appointed by the Board of Directors shall hold office until the first meeting of the Board of Directors following the next annual meeting of the stockholders and

until his or her successor is elected or appointed and qualified, or until he or she dies, resigns, is removed or becomes disqualified, unless a shorter term is specified in the vote electing or appointing said officer. Each officer appointed by an officer designated by the Board of Directors to elect or appoint such officer, if any, shall hold office until his or her successor is elected or appointed and qualified, or until he or she dies, resigns, is removed or becomes disqualified, unless a shorter term is specified by any agreement or other instrument appointing such officer. Any officer may resign by giving written notice of his or her resignation to the Chairman of the Board, if any, the President, or the Secretary, or to the Board of Directors at a meeting of the Board, and such resignation shall become effective at the time specified therein. Any officer may be removed from office with or without cause by vote of a majority of the directors. Any officer appointed by an officer designated by the Board of Directors to elect or appoint such officer, if any, may be removed with or without cause by such officer.

Section 5. Chairman of the Board.

The Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and stockholders at which he or she is present and shall have such authority and perform such duties as may be prescribed by these By-Laws or from time to time be determined by the Board of Directors.

Section 6. President.

The President shall, subject to the control and direction of the Board of Directors, have and perform such powers and duties as may be prescribed by these By-Laws or from time to time be determined by the Board of Directors.

Section 7. Vice Presidents.

The Vice Presidents, if any, in the order of their election, or in such other order as the Board of Directors may determine, shall have and perform the powers and duties of the President (or such of the powers and duties as the Board of Directors may determine) whenever the President is absent or unable to act. The Vice Presidents, if any, shall also have such other powers and duties as may from time to time be determined by the Board of Directors.

Section 8. Treasurer and Assistant Treasurers.

The Treasurer shall, subject to the control and direction of the Board of Directors, have and perform such powers and duties as may be prescribed in these By-Laws or be determined from time to time by the Board of Directors. All property of the Corporation in the custody of the Treasurer shall be subject at all times to the inspection and control of the Board of Directors. Unless otherwise voted by the Board of Directors, each Assistant Treasurer, if any, shall have and perform the powers and duties of the Treasurer whenever the Treasurer is absent or unable to act, and may at any time exercise such of the powers of the Treasurer, and such other powers and duties, as may from time to time be determined by the Board of Directors.

Section 9. Secretary and Assistant Secretaries.

The Board of Directors shall appoint a Secretary and, in his or her absence, an Assistant Secretary. The Secretary or, in his or her absence, any Assistant Secretary, shall attend all meetings of the directors and shall record all votes of the Board of Directors and minutes of the proceedings at such meetings. The Secretary or, in his or her absence, any Assistant Secretary, shall notify the directors of their meetings, and shall have and perform such other powers and duties as may from time to time be determined by the Board of Directors. If the Secretary or an Assistant Secretary is elected but is absent from any meeting of directors, a temporary secretary may be appointed by the directors at the meeting.

Section 10. Bond.

If required by the Board of Directors, any officer shall give the Corporation a bond in such sum and with such surety or sureties and upon such terms and conditions as shall be satisfactory to the Board of Directors, including without limitation a bond for the faithful performance of the duties of his office and for the restoration to the Corporation of all books, papers, vouchers, money and other property of whatever kind in his or her possession or under his control and belonging to the Corporation.

Section 11. Action with Respect to Securities of Other Corporations.

Unless otherwise directed by the Board of Directors, the President, the Treasurer or any officer of the Corporation authorized by the President shall have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of stockholders of or with respect to any action of stockholders of any other corporation in which this Corporation may hold securities and otherwise to exercise any and all rights and powers which this Corporation may possess by reason of its ownership of securities in such other corporation.

ARTICLE V STOCK

Section 1. Certificates of Stock

Each stockholder shall be entitled to a certificate signed by, or in the name of the Corporation by the Chairman of the Board of Directors, or the President or a Vice President, and by the Treasurer or an Assistant Treasurer, or the Secretary or an Assistant Secretary, certifying the number of shares owned by him or her. Any or all of the signatures on the certificate may be by facsimile.

Section 2. Transfers of Stock

Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation or by transfer agents designated to transfer shares of the stock of the Corporation. Except where a certificate is issued in accordance with Section 4 of this Article of these By-Laws, an outstanding certificate for the number of shares involved shall be surrendered for cancellation before a new certificate is issued therefor.

Section 3. *Record Date.*

In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders, or to receive payment of any dividend or other distribution or allotment of any rights or to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date on which the resolution fixing the record date is adopted and which record date shall not be more than sixty (60) nor less than ten (10) days before the date of any meeting of stockholders, nor more than sixty (60) days prior to the time for such other action as hereinbefore described; provided, however, that if no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held, and, for determining stockholders entitled to receive payment of any dividend or other distribution or allotment of rights or to exercise any rights of change, conversion or exchange of stock or for any other purpose, the record date shall be at the close of business on the day on which the Board of Directors adopts a resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

Section 4. *Lost, Stolen or Destroyed Certificates.*

In the event of the loss, theft or destruction of any certificate of stock, another may be issued in its place pursuant to such regulations as the Board of Directors may establish concerning proof of such loss, theft or destruction and concerning the giving of a satisfactory bond or bonds of indemnity.

Section 5. *Regulations.*

The issue, transfer, conversion and registration of certificates of stock shall be governed by such other regulations as the Board of Directors may establish.

Section 6. *Interpretation.*

The Board of Directors shall have the power to interpret all of the terms and provisions of these By-Laws, which interpretation shall be conclusive.

ARTICLE VI - NOTICES

Section 1. Notices.

Except as otherwise specifically provided herein or required by law, all notices required to be given to any stockholder, director, officer, employee or agent shall be in writing and may in every instance be effectively given by hand delivery to the recipient thereof, by depositing such notice in the mail, postage paid, or by sending such notice by courier service, prepaid telegram or mailgram, or telecopy, cable, or telex. Any such notice shall be addressed to such stockholder, director, officer, employee or agent at his or her last known address as the same appears on the books of the Corporation. The time when such notice is received, if hand delivered, or dispatched, if delivered through the mail or by courier, telegram, mailgram, telecopy, cable, or telex shall be the time of the giving of the notice.

Section 2. Waiver of Notice.

A written waiver of any notice, signed by a stockholder, director, officer, employee or agent, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such stockholder, director, officer, employee or agent. Neither the business nor the purpose of any meeting need be specified in such a waiver. Attendance of a director or stockholder at a meeting without protesting prior thereto or at its commencement the lack of notice shall also constitute a waiver of notice by such director or stockholder.

ARTICLE VII - INDEMNIFICATION

Section 1. Actions other than by or in the Right of the Corporation.

The Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation) by reason of the fact that he or she is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceedings, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

Section 2. *Actions by or in the Right of the Corporation.*

The Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that he or she is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by him or her in connection with the defense or settlement of such action or suit if he acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery of the State of Delaware or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery of the State of Delaware or such other court shall deem proper.

Section 3. *Success on the Merits.*

To the extent that any person described in Section 1 or Section 2 of this Article has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in said Sections, or in defense of any claim, issue or matter therein, he or she shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him or her in connection therewith.

Section 4. *Specific Authorization.*

Any indemnification under Section 1 or Section 2 of this Article (unless ordered by a. court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of any person described in said Sections is proper in the circumstances because he or she has met the applicable standard of conduct set forth in said Sections. Such determination shall be made (1) by the Board of Directors by a majority vote of a quorum consisting of directors who were not parties to such action, suit or proceeding, or (2) if such a quorum is not obtainable, or, even if obtainable, a quorum of disinterested directors so directs, by independent legal counsel in a written opinion, or (3) by the stockholders of the Corporation.

Section 5. *Advance Payment.*

Expenses incurred in defending any civil, criminal, administrative, or investigative action, suit or proceeding may be paid by the Corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of any person described in said Section to repay such amount if it shall ultimately be determined that he or she is not entitled to indemnification by the Corporation as authorized in this Article.

Section 6. *Non-Exclusivity.*

The indemnification and advancement of expenses provided by, or granted pursuant to, the other Sections of this Article shall not be deemed exclusive of any other rights to which those provided indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office.

Section 7. *Insurance.*

The Board of Directors may authorize, by a vote of the majority of the full board, the Corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify him or her against such liability under the provisions of this Article.

Section 8. *Continuation of Indemnification and Advancement of Expenses.*

The indemnification and advancement of expenses provided by, or granted pursuant to, this Article shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

Section 9. *Severability.*

If any word, clause or provision of this Article or any award made hereunder shall for any reason be determined to be invalid, the provisions hereof shall not otherwise be affected thereby but shall remain in full force and effect.

Section 10. *Intent of Article.*

The intent of this Article is to provide for indemnification and advancement of expenses to the fullest extent permitted by Section 145 of the General Corporation Law of Delaware. To the extent that such Section or any successor section may be amended or supplemented from time to time, this Article shall be amended automatically and construed so as to permit indemnification and advancement of expenses to the fullest extent from time to time permitted by law.

ARTICLE VIII - CERTAIN TRANSACTIONS

Section 1. Transactions with Interested Parties.

No contract or transaction between the Corporation and one or more of its directors or officers, or between the Corporation and any other corporation, partnership, association, or other organization in which one or more of its directors or officers are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the Board or committee thereof which authorizes the contract or transaction or solely because the votes of such director or officer are counted for such purpose, if:

(a) The material facts as to his or her relationship or interest and as to the contract or transaction are disclosed or are known to the Board of Directors or the committee, and the Board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; or

(b) The material facts as to his or her relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of the stockholders; or

(c) The contract or transaction is fair as to the Corporation as of the time it is authorized, approved or ratified, by the Board of Directors, a committee thereof, or the stockholders.

Section 2. Quorum.

Common or interested directors may be counted in determining the presence of a quorum at a meeting of the Board of Directors or of a committee which authorizes the contract or transaction.

ARTICLE IX - MISCELLANEOUS

Section 1. Facsimile Signatures.

In addition to the provisions for use of facsimile signatures elsewhere specifically authorized in these By-Laws, facsimile signatures of any officer or officers of the Corporation may be used whenever and as authorized by the Board of Directors or a committee thereof.

Section 2. Corporate Seal.

The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary. If and when so directed by the Board of Directors or a committee thereof, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer.

Section 3. *Reliance upon Books, Reports and Records.*

Each director, each member of any committee designated by the Board of Directors, and each officer of the Corporation shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers or employees, or committees of the Board of Directors so designated, or by any other person as to matters which such director or committee member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 4. *Fiscal Year.*

Except as otherwise determined by the Board of Directors from time to time, the fiscal year of the Corporation shall end on the last day of December of each year.

Section 5. *Time Periods.*

In applying any provision of these By-Laws which requires that an act be done or not be done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

ARTICLE X - AMENDMENTS

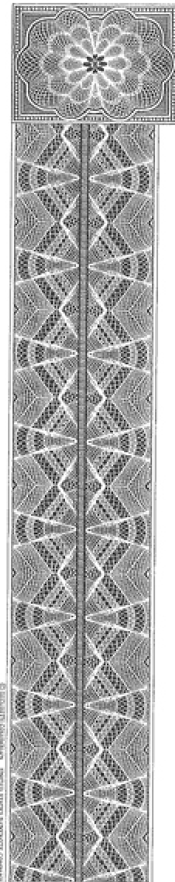
These By-Laws may be amended, added to, rescinded or repealed by the stockholders or by the Board of Directors, when such power is conferred upon the Board of Directors by the Certificate of Incorporation, at any meeting of the stockholders or of the Board of Directors, provided notice of the proposed change was given in the notice of the meeting or, in the case of a meeting of the Board of Directors, in a notice given not less than two (2) days prior to the meeting.

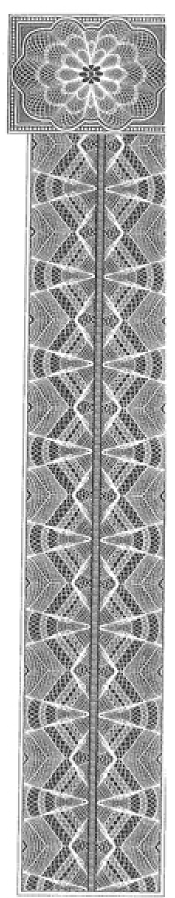
Exhibit 4.1

NUMBER

C 0102

SHARES





AMEDICA CORPORATION

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

SEE REVERSE FOR CERTAIN DEFINITIONS

This Certifies that

is the owner of

FULLY PAID AND NONASSESSABLE SHARES OF COMMON STOCK, $0.01 PAR VALUE, OF

Amedica Corporation transferable on the books of the Corporation in person or by duly authorized attorney upon the surrender of this Certificate properly endorsed. This Certificate is not valid until countersigned by the Transfer Agent and registered by the Registrar.

Witness the facsimile signatures of the Corporation's duly authorized officers.

Dated:

CERTIFICATE OF STOCK

COUNTERSIGNED AND REGISTERED:
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
(NEW YORK, N.Y.)
TRANSFER AGENT AND REGISTRAR

AUTHORIZED SIGNATURE

CHIEF FINANCIAL OFFICER

CHAIRMAN OF THE BOARD

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common
TEN ENT — as tenants by the entireties
JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — ________ (Cust) as Custodian for ________ (Minor) under Uniform Gifts to Minors Act ________ (State)

UNIF TRAN MIN ACT — ________ (Cust) as Custodian for ________ (Minor) under Uniform Transfers to Minors Act ________ (State)

Additional abbreviations may also be used though not in the above list.

For value received, ________ hereby sell, assign and transfer unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

[ ]

____

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE)

____

____

____ *shares*

of the common stock represented by the within Certificate, and do hereby irrevocably constitute and appoint

____ *Attorney*

to transfer the said stock on the books of the within named Corporation with full power of substitution in the premises.

Dated ________________

X ____

NOTICE: THE SIGNATURE(S) TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME(S) AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATEVER.

X ____

ALL GUARANTEES MUST BE MADE BY A FINANCIAL INSTITUTION (SUCH AS A BANK OR BROKER) WHICH IS A PARTICIPANT IN THE SECURITIES TRANSFER AGENTS MEDALLION PROGRAM ("STAMP"), THE NEW YORK STOCK EXCHANGE, INC. MEDALLION SIGNATURE PROGRAM ("MSP"), OR THE STOCK EXCHANGES MEDALLION PROGRAM ("SEMP") AND MUST NOT BE DATED. GUARANTEES BY A NOTARY PUBLIC ARE NOT ACCEPTABLE.

This certificate also evidences and entitles the holder hereof to certain Rights as set forth in a Rights Agreement (the Rights Agreement) between Sigma-Aldrich Corporation (the Company) and Computershare Investor Services, LLC, as Rights Agent, as it may from time to time be supplemented or amended, the terms of which are incorporated herein by reference and a copy of which is on file at the principal executive offices of the Company. Under certain circumstances, as set forth in the Rights Agreement, such Rights may expire or may be redeemed, exchanged or be evidenced by separate certificates and no longer be evidenced by this certificate. The Company will mail to the holder of this certificate a copy of the Rights Agreement without charge promptly after receipt of a written request therefor. Under certain circumstances, Rights issued to or held by Acquiring Persons or their Affiliates or Associates (as defined in the Rights Agreement) and any subsequent holder of such Rights may become null and void.

Exhibit 4.3

WARRANT AGREEMENT

THIS WARRANT AGREEMENT, dated as of March 1, 2004 (the "Warrant Agreement"), is by and between CREATION CAPITAL LLC, a Delaware limited liability company ("Creation Capital"), and AMEDICA CORPORATION, a Delaware corporation (the "Company").

WHEREAS, pursuant to the letter dated July 1, 2003, as amended, Creation Capital was engaged by the Company as the exclusive placement agent to the Company in the United States in connection with the private placement of up to $8.4 million of the Company's Series A Convertible Preferred Stock (the "Stock"); and

WHEREAS, the July 1, 2003 letter provides that upon each closing of the sale of Stock, Creation Capital shall receive warrants to purchase a number of shares of Stock equal to fifteen percent (15%) of the total number of shares of Stock sold at such closing; and

WHEREAS, the July 1, 2003 letter further provides that the warrants shall be issued pursuant to a definitive warrant agreement mutually agreed to by the Company and Creation Capital.

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purposes of defining terms and provisions of the Warrants and the certificates representing the Warrants and the respective rights and obligations thereunder of the Company, Creation Capital and the holders of certificates representing the Warrants, the parties hereto agree as follows:

Section 1. Form of Warrant. The Company shall grant to Creation Capital (Creation Capital and/or its assigns are collectively referred to herein as the "Holder") warrant(s) (the "Warrant"), in the form of Exhibit A hereto to purchase shares of Stock at a purchase price of $0.66 per share (the "Exercise Price") all as more fully set forth herein. The Warrant shall be executed on behalf of the Company by the Chief Executive Officer or any other authorized officer of the Company, and dated as of the date of issuance of the Warrant.

Section 2. Exercise Period of Warrant. The Warrant shall be exercisable at any time commencing on the first anniversary of the date of issuance of the Warrant and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date of issuance of the Warrant (the "Warrant Termination Date"); provided, however, that in the event of (a) the closing of the issuance and sale of shares of the common stock, $.01 par value per share (the "Common Stock"), of the Company in the Company's first underwritten public offering ("IPO") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act") or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

Section 3. Term of Warrant Agreement. Except as otherwise expressly provided herein, this Warrant Agreement shall become void and all rights hereunder and all rights in respect thereof under the Warrant shall cease as of the Warrant Termination Date except to the extent that the Warrant is exercised prior to such date.

Section 4. Number of Shares. The Warrant shall be exercisable for up to the number of shares of Stock as shall be indicated on the Warrant, subject to adjustment as provided herein (the "Warrant Shares").

Section 5. Adjustment Provisions. The Exercise Price and the number of shares of Stock underlying the Warrant shall be subject to adjustment from time to time as hereinafter set forth:

(a) *Stock Dividends – Stock Splits*. If after the date hereof, the number of outstanding shares of Stock is increased by a stock dividend payable in shares of Stock or by a sub-division or a stock split of shares of Stock or other similar event as described in the Certificate of Designation, Preferences and Rights of the Stock, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be increased in proportion to such increase in outstanding shares.

(b) *Aggregation of Shares*. If after the date hereof, the number of outstanding shares of Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Stock or other similar event, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be decreased in proportion to such decrease in outstanding shares.

(c) *Adjustments in Exercise Price*. Whenever the number of the shares of Stock issuable upon the exercise of the Warrant is adjusted, as provided in Sections 5(a) and (b), the Exercise Price shall be adjusted (to the nearest cent) by multiplying such Exercise Price immediately prior to such adjustment by a fraction (x) the numerator of which shall be the number of the shares of Stock purchasable upon the exercise of the Warrant immediately prior to such adjustment and (y) the denominator of which shall be the number of the shares of Stock so purchasable immediately thereafter.

(d) *When De Minimis Adjustment May Be Deferred.* No adjustment in the Exercise Price need be made unless the adjustment would require an increase or decrease of at least 1% in the Exercise Price. Any adjustments that are not made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 5 shall be made to the nearest 1/100th of a share.

(e) *Notice*. Whenever there shall be an adjustment as provided in this Section 5, the Company shall promptly cause written notice thereof to be sent to the Holder in accordance with Section 13 hereof, which notice shall be accompanied by an officer's certificate setting forth the number of Warrant Shares purchasable upon the exercise of this Warrant and the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment and the computation thereof. Additionally, in case at any time the Company shall propose:

(i) to pay any dividend or make any distribution on shares of Stock in shares of Stock or make any other distribution to all holders of Stock; or

(ii) to issue any rights, warrants or other securities to all holders of Stock entitling them to purchase any additional shares of Stock or any other rights, warrants or other securities; or

(iii) to effect any reclassification or change of outstanding shares of Stock, or any consolidation, merger or sale; or

(iv) to effect any liquidation, dissolution or winding-up of the Company;

then, and in any one or more of such cases, the Company shall give written notice thereof to the Holder in accordance with Section 13 hereof, which notice shall be sent at least fifteen (15) days prior to (i) the date as of which the holders of record of shares of Stock to be entitled to receive any such dividend, distribution, rights, warrants, other securities are to be determined or (ii) the date on which any such reclassification, change of outstanding shares of Stock, consolidation, merger, sale, liquidation, dissolution or winding-up is expected to become effective, and the date as of which it is expected that holders of record of shares of Stock shall be entitled to exchange their shares for securities or other property, if any, deliverable upon such reclassification, change of outstanding shares, consolidation, merger, sale, liquidation, dissolution or winding-up.

Section 6. Representations, Warranties and Covenants of the Company. The Company hereby represents, warrants and covenants to Holder as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing as a foreign corporation in each jurisdiction in which the nature of its business makes such qualification necessary and where the failure to so qualify would have a material adverse effect on its business or operations. The Company has all requisite corporate power and authority to carry out its business as presently conducted and as proposed to be conducted and to enter into and discharge its obligations under this Warrant Agreement and the Warrant.

(b) The execution and delivery of this Warrant Agreement and the Warrant by the Company and its performance and compliance with the terms of this Warrant Agreement and the Warrant have been duly authorized by all necessary corporate action on the part of the Company.

(c) The consummation of the transactions contemplated by this Warrant Agreement and the Warrant will not (i) conflict with, result in any breach of any of the terms and

provisions of, or constitute (with or without notice or lapse of time or both) a default under, the certificate of incorporation or bylaws of the Company, or any material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument to which the Company is a party or by which it or any of its properties is bound, (ii) result in the creation or imposition of any lien, adverse claim or other encumbrance upon any of the properties of the Company pursuant to the terms of any such material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument, or (iii) violate any law or order, rule or regulation applicable to the Company of any court or of any federal or state regulatory body, administrative agency, or other governmental instrumentality having jurisdiction over the Company or any of its properties.

(d) The Warrant Agreement and the Warrant each constitutes a legal, valid and binding obligation of the Company and is enforceable against the Company in accordance with the terms hereof and thereof, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and by general principles of equity (whether considered in a proceeding or action in equity or at law).

(e) The Company shall at all times keep a sufficient number of authorized but unissued shares of Stock reserved for issuance upon the exercise of the Warrant. The Warrant Shares, when issued, delivered and paid for in accordance with the terms of this Warrant Agreement and the Warrant, will be duly and validly issued, fully paid and non-assessable and will not have been issued in violation of the pre-emptive or contractual rights of any person or entity.

(f) The Company shall deliver to each Holder of ten percent (10%) or more of the aggregate Warrant Shares such information and reports relating to the Company as the Company is required to provide to other holders of the Stock. The rights of such Holders under this Section 6(f) shall terminate upon the closing of the IPO.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of the Warrant or any certificate representing Warrant Shares, and, in the case of any such loss, theft or destruction, upon delivery of indemnity (which may include a bond) reasonably satisfactory to the Company, or, in the case of any such mutilation, upon surrender and cancellation of the Warrant or any certificate representing Warrant Shares, as the case may be, the Company will issue a new Warrant or certificates representing Warrant Shares, as the case may be, of like tenor representing an equivalent interest or right, in lieu of such lost, stolen, destroyed or mutilated Warrant or certificates representing Warrant Shares, as the case may be. The applicant for such replacement Warrant shall comply with such other reasonable requests as the Company may reasonably prescribe.

Section 7. Representations, Warranties and Covenants of Holder. Holder hereby represents, warrants and covenants to the Company as follows:

(a) Holder is acquiring the Warrant, and upon exercise of the Warrant will acquire the Warrant Shares, for its own account with no intention of distributing or reselling the

Warrant or Warrant Shares in any transaction that would be a violation of the securities laws of the United States or any state, without prejudice to the Holder's rights at all times to sell or otherwise dispose of all or part of such Warrant under a registration under the Securities Act or an exemption available thereto. Holder is aware that neither the Warrant nor the Warrant Shares are registered under the Securities Act or any state or other jurisdiction's securities laws, and that Holder must hold the Warrant and the Warrant Shares indefinitely unless subsequently registered or an exemption from registration is available. Holder understands and agrees that the Warrant will bear the restrictive legend set forth on the Warrant and that the Warrant Shares will bear the legend set forth in Section 12 of this Warrant Agreement. Holder represents and warrants that it is an "accredited investor" as that term is defined in Rule 501 of Regulation D promulgated under the Securities Act.

Section 8. Shelf Registration.

(a) As promptly as practicable following the eligibility of the Company or its successor to file a Registration Statement on Form S-3 (or any successor or similar short-form registration statement, a "Shelf Registration Statement"), subject to the limitations herein, the Holder may request, in writing, that the Company file a Shelf Registration Statement with respect to the shares of Common Stock issuable upon conversion of the Warrant Shares (the "Registrable Securities"). In such a notice, the Holder shall advise the Company of the number of Registrable Securities to be included in the Shelf Registration Statement. The Company shall use its best efforts to have such Shelf Registration Statement declared effective by the U.S. Securities and Exchange Commission ("SEC") as promptly as practicable thereafter. The Company shall use its best efforts to keep any such Shelf Registration Statement continuously effective for the period of at least twenty-four months beginning on the date on which such Shelf Registration Statement is declared effective. The Holder shall provide such information as may be reasonably requested by the Company in connection with the filing of the Shelf Registration Statement or in order to maintain its effectiveness.

(b) Notwithstanding the foregoing, the Company shall not be obligated to file any Shelf Registration Statement pursuant to this Section 8 unless the Registrable Securities to be sold have an anticipated aggregate offering price of at least $1,000,000 (before underwriter's discounts and commissions). In addition, the Company shall not be obligated to effect any Shelf Registration Statement pursuant to this Section 8 if, in the good faith determination of the Board of Directors, the filing of such registration statement would be detrimental to the Company or its stockholders due to pending material corporate developments or similar material events that have not yet been publicly disclosed and as to which the Company believes that public disclosure would be prejudicial to the Company and may delay such Shelf Registration Statement for a period not in excess of ninety (90) days from such determination. The Company shall be obligated to effect no more than two Shelf Registration Statements during any one calendar year.

(c) The Company shall pay all expenses incurred in connection with a registration pursuant to this Section, including, without limitation, all registration, qualification, printing and accounting fees, all fees and disbursements of counsel for the Company, and all reasonable fees and disbursements of one counsel for the Holders as a group. The Company shall pay all registration fees and other expenses applicable to the Registrable Securities included in the Shelf Registration Statement, provided, that the Holder will be responsible for all underwriting discounts and commissions allocable to the securities sold by such holder.

Section 9. Piggyback Registration.

(a) If the Company proposes to register any of its equity securities, either for its own account or for the account of any Person, but not including a registration relating to (i) employee stock option or purchase plans, or (ii) a transaction pursuant to Rule 145 under the Securities Act (a "Piggyback Registration"), the Company will:

(i) promptly give written notice thereof to the Holder; and

(ii) use its best efforts to include in such Piggyback Registration and in any underwriting involved therein up to all of the Registrable Securities which the Holder requests in writing to be so included within thirty days after receipt of such written notice from the Company.

The Company shall pay, and shall reimburse the Holder for paying, any expenses incurred in connection with a Piggyback Registration requested pursuant to this Section, including, without limitation, all registration, qualification, printing and accounting fees, all fees and disbursements of counsel for the Company, and all reasonable fees and disbursements of one counsel for the Holders as a group; provided, that the Holder will be responsible for all underwriting discounts and commissions allocable to the securities sold by such holder.

(b) If the registration of which the Company gives notice is for a public offering involving an underwriting, the Company shall so advise the Holder as a part of the written notice given pursuant to this Section, and the right of the Holder to include Registrable Securities in such registration shall be conditioned upon the Holder participation in such underwriting and the entry of the Holder into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by the Company.

(c) If the underwriter of the registered public offering referred to in this Section shall advise the Company in writing that marketing factors require a limitation of the amount of securities to be underwritten, securities shall be included in such offering in the following priority: *first*, securities to be registered by the Company and/or securities requested to be included pursuant to the exercise of demand registration rights granted by the Company in such priority and proportions as may be agreed among such parties; *second*, the securities requested to be included in such registration by the Holder pursuant to this Section, the investors who purchased Stock in the offering, and other parties requesting Piggyback Registration rights of the type provided in this Section and having the same priority, *pro rata* based upon the number of securities requested to be included by such parties; *third,* the securities requested to be included in such registration by principals of the Company pursuant to the exercise of Piggyback Registration rights of the type provided in this Section, *pro rata* on the basis of the number of such securities requested to be included by such principal; and *fourth,* other securities for the account of Persons, including the Holder, allocated among such Persons in accordance with the priorities then existing among the Company and such Persons. Any securities excluded pursuant to the provisions of this Section shall be withdrawn from and shall not be included in such Piggyback Registration.

(d) Notwithstanding the foregoing, the Company shall not be obligated to effect any Piggyback Registration pursuant to this Section 9 if, in the good faith determination of the Board of Directors, the filing of such registration statement would be detrimental to the Company or its stockholders due to pending material corporate developments or similar material events that have not yet been publicly disclosed and as to which the Company believes that public disclosure would be prejudicial to the Company and may delay such Piggyback Registration Statement for a period not in excess of ninety (90) days from such determination

Section 10. Registration Procedures.

(a) In the case of a registration to be effected by the Company pursuant to this Warrant Agreement in which the Holder is participating, the Company will keep the Holder advised in writing as to the initiation of such registration and as to the completion thereof. In connection with such offering, the Company shall promptly:

(1) prepare and file with the SEC a registration statement with respect to the Registrable Securities and its best efforts to cause such registration statement to become effective for a period of at least 60 days or until the distribution described in the registration statement relating thereto has been completed, whichever shall first occur;

(2) in connection with the preparation and filing of a registration statement, give the Holder, its underwriters, if any, and its counsel, the opportunity (over a reasonable period of time) to review and comment upon any such registration statement, each prospectus included therein or filed with the SEC, and each amendment thereof or supplement thereto, and give each of them access to financial and other records, pertinent corporate documents and properties of the Company and an opportunity to discuss the business of the Company with its officers, its counsel and the independent public accountants who have certified its financial statements as shall be necessary, in the opinion of the Holder and the underwriters' respective counsel, to conduct a reasonable due diligence investigation within the requirements of the Securities Act;

(3) furnish to the Holder and to the underwriters, if any, of the securities being registered such number of copies of the registration statement, preliminary prospectus, final prospectus and other documents incident thereto as such underwriters and the Holder from time to time may request;

(4) prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement;

(5) register or qualify the Registrable Securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be requested by the Holder for the distribution of the Registrable Securities covered by the registration statement to be sold by the Company;

(6) enter into an underwriting agreement in customary form and substance satisfactory to the Holder and the managing underwriter or underwriters of the public offering of such securities, if the offering is to be underwritten, in whole or in part;

(7) notify the Holder at any time when a prospectus relating thereto covered by such registration statement is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(8) cause all such Registrable Securities to be listed on a national securities exchange or on Nasdaq;

(9) unless any Registrable Securities shall be in book-entry form, cooperate with the Holder to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold pursuant to any registration statement free of any restrictive legend and in such permitted denominations and registered in such names as the Holder may request in connection with the sale of Registrable Securities pursuant to such registration statement; and

(10) otherwise use its commercially reasonable efforts to comply with all applicable rules and regulations of the SEC, and make available to the Holder, as soon as reasonably practicable, an earnings statement covering the period of at least 12 months, but not more than 18 months, beginning with the first full calendar month after the effective date of such registration statement, which earnings statement shall satisfy the provisions of the Securities Act.

(b) Indemnification.

(1) Indemnification by the Company. The Company will indemnify each Holder requesting or joining in a registration and each underwriter of the securities so registered, the officers, directors and partners of each such person and each person who controls any thereof (within the meaning of the Securities Act) against any and all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, or any violation by the Company of any rule or regulation promulgated under the Securities Act applicable to the Company and relating to any action or inaction required of the Company in connection with any such registration, qualification or compliance, and the Company will reimburse each such Holder, underwriter, officer, director, partner and controlling person for any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such claim, loss, damage or

liability arises out of or is based on any untrue statement or omission based upon written information furnished to the Company in an instrument duly executed by such Holder, underwriter, officer, director, partner or controlling person and stated to be specifically for use in such prospectus or registration statement.

(2) Indemnification by Each Holder. Each Holder requesting or joining in a registration, will indemnify, severally and not jointly, each underwriter of the securities so registered, the Company and its officers who sign the registration statement and directors and each person, if any, who controls any thereof (within the meaning of the Securities Act) and their respective successors and assigns against any and all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, and such Holder will reimburse each underwriter, the Company and each other person indemnified pursuant to this paragraph for any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action; provided, however, that this paragraph shall apply only if (and only to the extent that) such statement or omission was made in reliance upon written information furnished to such underwriter or the Company in an instrument duly executed by such Holder and stated to be specifically for use in such prospectus, offering circular or other document (or related registration statement, notification or the like) or any amendment or supplement thereto; and, provided further, that each Holder's liability hereunder with respect to any particular registration shall be limited to an amount equal to the net proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

(3) Indemnification Proceedings. Each party entitled to indemnification pursuant to this Section 10(b) (the "Indemnified Party") shall give notice to the party required to provide indemnification pursuant to this Section 10(b) (the "Indemnifying Party") promptly after such Indemnified Party acquires actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party (at its expense) to assume the defense of any claim or any litigation resulting therefrom; provided that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be reasonably acceptable to the Indemnified Party, and the Indemnified Party may participate in such defense at such party's expense; and provided, further, that the failure by any Indemnified Party to give notice as provided in this paragraph shall not relieve the Indemnifying Party of its obligations under this Section 10(b) except to the extent that the failure results in a failure of actual notice to the Indemnifying Party and such Indemnifying Party is damaged solely as a result of the failure to give notice. No Indemnifying Party, in the defense of any such claim or litigation, shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect to such claim or litigation and no Indemnified Party shall consent to entry of any judgment or settle such claim or litigation without the prior written consent of the Indemnifying Party so long as the Indemnifying Party has acknowledged in writing its obligation to indemnify and is in compliance with all of its obligations hereunder to indemnify the Indemnified Party for all amounts in connection with

such claim or litigation and which consent shall not be unreasonably withheld. If the defendants in any action subject to this Section 10(b) include both the Indemnified Party and the Indemnifying Party and the Indemnified Party shall have reasonably concluded that there may be reasonable defenses available to it which are different from or additional to those available to the Indemnifying Party or if the interests of the Indemnified Party reasonably may be deemed to conflict with the interests of the Indemnifying Party, the Indemnified Party shall have the right to select a separate counsel and to assume such legal defenses and otherwise to participate in the defense of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the Indemnifying Party as incurred.

(c) Contribution in Lieu of Indemnification. If the indemnification provided for in Section 10(b) hereof is unavailable to a party that would have been an Indemnified Party under any such section in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each party that would have been an Indemnifying Party thereunder shall, in lieu of indemnifying such Indemnified Party, contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party on the one hand and such Indemnified Party on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof). The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Indemnifying Party or such Indemnified Party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and each Holder of Registrable Securities agree that it would not be just and equitable if contribution pursuant to this Section 10(c) were determined by pro-rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 10(c). The amount paid or payable by an Indemnified Party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this Section 10(c) shall include any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending any such action or claim. Notwithstanding any provision of this Section 10(c) to the contrary, (a) no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation and (b) each Holder's liability hereunder with respect to any particular registration shall be limited to an amount equal to the net proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

Section 11. Effect of Registration Rights of Heirs, Assigns, Beneficiaries, Successors and Transferees. The heirs, assigns, beneficiaries and successor of the Holder shall be entitled to all of the registration rights set forth in Sections 8 through 10 of this Warrant Agreement; *provided, however,* that such Person or Persons will be able to exercise such rights of the Holder only if it or they have at least 5% of the equity interest in the Company.

Section 12. Transfers and Exchanges. Subject to the terms of Section 15 hereof, the Company shall from time to time register the transfer of the Warrant in a Warrant register to

be maintained by the Company upon surrender thereof accompanied by a written instrument or instruments of transfer in the form of assignment attached hereto or as otherwise may be satisfactory to the Company, duly executed by the Holder thereof or by the duly appointed legal representative thereof or by a duly authorized attorney. Upon any such transfer, the surrendered Warrant shall be canceled and disposed of by the Company and a new Warrant shall be issued to the transferee(s). The Holder agrees that prior to any proposed transfer of the Warrant or of the Warrant Shares, if such transfer is not made pursuant to an effective registration statement under the Securities Act and any applicable state securities laws, the Holder shall deliver to the Company:

(a) an investment covenant substantially similar to Section 7(a) and otherwise reasonably satisfactory to the Company signed by the proposed transferee;

(b) an agreement by such transferee to the impression of the restrictive investment legend set forth below on the Warrant or the Warrant Shares;

(c) an agreement by such transferee that the Company may place a notation in the stock books of the Company or a "stop transfer order" with any transfer agent or registrar with respect to the Warrant Shares;

(d) an agreement by such transferee to be bound by the provisions of this Section 12 relating to the transfer of such Warrant or Warrant Shares; and

(e) an opinion of counsel, reasonably satisfactory in form and substance to the Company, that the transfer is exempt from registration requirements under the Securities Act and any applicable state securities laws.

The Holder agrees that each Warrant and each certificate representing Warrant Shares will bear the following legend:

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Section 13. Notices. All demands, notices and communications relating to this Warrant Agreement or any Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows:

If to the Company:

Amedica Corporation
2116 South Lakeline Drive
Salt Lake City, Utah 84109
Attention: Ashok Khandkar,
Chief Executive Officer
Telephone: (801) 535-4355
Telecopy: (801) 584-2533

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

Creation Capital LLC
630 Fifth Avenue – Rockefeller Center, Suite 2000
New York, New York 10111
Attention: Gregg R. Honigblum,
Chief Executive Officer
Telephone: (212) 332-1623
Telecopy: (212) 218-3761

with a copy to:

Winston & Strawn
200 Park Avenue
New York, New York 10166
Attention: Nick Krylov, Esq.
Telephone: (212) 294-6617
Telecopy: (212) 294-4700

Any such demand, notice or communication hereunder shall be deemed to have been duly given when received by the other party or parties at the address shown above or on the next succeeding business day if the date of receipt is not a business day, or such other address as may hereafter be furnished to the other party or parties by like notice and shall be deemed to have been received on the date delivered to or received at the premises of the addresses.

Section 14. Counterparts. For the purpose of facilitating the execution of this Warrant Agreement and for other purposes, this Warrant Agreement may be executed simultaneously in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute and be one and the same instrument; and such counterparts may be delivered via facsimile to the numbers designated in or pursuant to Section 13.

Section 15. Assignability. Subject to the provisions set forth in Section 12, the Holder may assign the rights and interests under this Warrant Agreement to any person without the Company's consent; provided, however, that in the event such assignee (other than an assignee which is a Holder Affiliate (as such term is defined below)) is reasonably deemed by the Company to compete with the Company in its traditional business activities (a "competitor"), the Company shall not be required to furnish to such assignee information and reports relating to the Company pursuant to Section 6(f) of this Agreement and, upon notice given by the Company to Holder that such assignee is deemed a "competitor," Holder shall not furnish to such assignee any information or reports relating to the Company, without the Company's prior written consent; and provided, further, however, that no such assignment shall be made to the extent such transfer would subject the Company to the reporting requirements of the Securities Exchange Act of 1934, as amended. The Holder shall promptly cause written notice of any such transfer to be sent to the Company in accordance with Section 13 hereof at least fourteen (14) days prior to such transfer. Notwithstanding the foregoing or any other provision to the contrary, the Warrant and the Warrant Shares will be "restricted securities" as defined in Rule 144 under the Securities Act, and thus will not be transferable except in compliance with applicable federal and state securities laws and regulations. "Holder Affiliate" shall mean any person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such Holder.

Section 16. Governing Law; Jurisdiction; Waiver of Jury Trial.

(a) *Governing Law*. This Warrant Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

(b) *Jurisdiction*. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any New York State or Federal court sitting in New York City in any action or proceeding arising out of or relating to this Warrant Agreement or the Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 13. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Jury Trial.* **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT AGREEMENT OR ANY WARRANT ISSUED HEREUNDER.**

Section 17. Amendments. This Warrant Agreement may be amended from time to time by written instrument signed by the Company and the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant and no waiver of any of the terms hereof shall be effective unless it is in writing and signed by the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant or the Company, as the case may be. Any amendment or waiver pursuant to this Section 17 shall be binding on all Holders of the Warrant Shares and may be given retroactive, prospective or concurrent effect, depending upon the language in such amendment or waiver.

Section 18. No Waiver. No failure on the part of the Holder or the Company to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Section 19. Termination. This Warrant Agreement shall terminate on the Warrant Termination Date. Notwithstanding the foregoing, this Warrant Agreement will terminate on any earlier date if the Warrant has been exercised in full.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have caused this warrant Agreement to be duly executed by their respective officers on the day and year first above written.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Name: Ashok Khandkar
Title: Chief Executive Officer

CREATION CAPITAL LLC

By: /s/ Gregg R. Honigblum
Name: Gregg R. Honigblum
Title: Chief Executive Officer

Exhibit A

Form of Warrant

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Exercisable on or before
the Warrant Termination Date
(as defined below)

WARRANT TO PURCHASE SERIES A CONVERTIBLE PREFERRED STOCK

To Subscribe for and Purchase Series A Convertible Preferred Stock

of

AMEDICA CORPORATION

WARRANT NO. __________

This certifies that, for value received, Creation Capital LLC, a Delaware limited liability company (“Creation Capital”), or its assigns (Creation Capital and/or its assigns are collectively referred to herein as the “Holder”), is entitled to subscribe for and purchase from Amedica Corporation, a Delaware corporation (the “Company”), at any time commencing on the first anniversary of the date hereof and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date hereof (the “Warrant Termination Date”), __________ shares (the “Warrant Shares”) of the Company’s Series A Convertible Preferred Stock, par value $.01 per share (the “Series A Preferred Stock”), subject to adjustment as provided in that certain Warrant Agreement, dated as of March 1, 2004, by and between the Company and Creation Capital (the “Warrant Agreement”), at an exercise price of $0.66 per share, as such exercise price may be adjusted from time to time under the Warrant Agreement. No Warrant may be exercised after the Warrant Termination Date.

In the event of (a) the closing of the issuance and sale of shares of common stock, $.01 par value per share (the "Common Stock"), of the Company in the Company's first underwritten public offering ("IPO") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act") or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

This Series A Preferred Stock Purchase Warrant and all Series A Preferred Stock Purchase Warrants issued in substitution or exchange therefor are herein individually called a "Warrant" and collectively called "Warrants."

This Warrant is issued pursuant to and, subject to the terms and conditions of, the Warrant Agreement, which Warrant Agreement is incorporated by reference in and made a part of this instrument. Capitalized terms not otherwise defined herein shall have the meanings given them in the Warrant Agreement. Any conflict between the terms of this Warrant and the Warrant Agreement shall be resolved in favor of the terms of the Warrant Agreement.

This Warrant is further subject to the following provisions, terms and conditions:

1. (a) In order to exercise this Warrant, in whole or in part, the Holder shall deliver to the Company, at the office the Company designated for such purpose in Section 13 of the Warrant Agreement, (i) the form of election to purchase set forth herein properly completed and signed, (ii) payment of the Warrant Price pursuant to Section 1(b), and (iii) this Warrant. Upon receipt of the items referred to in clauses (i), (ii) and (iii) above, the Company shall, as promptly as practicable, and in any event within ten (10) days thereafter, execute or cause to be executed and deliver or cause to be delivered to the Holder a certificate or certificates, in such name or names as the Holder may designate, representing the aggregate number of full shares of Series A Preferred Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided in Section 4. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Series A Preferred Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Payment to the Company of the purchase price for the Warrant Shares so purchased (the " Warrant Price") may be made, at the option of the Holder, by payment of the Warrant Price in cash or by wire transfer or cashier's check drawn on a United States bank.

(c) Net Exercise. In the event of any exercise of this Warrant in connection with a mandatory conversion of the Series A Preferred Stock into shares of the Company's

Common Stock pursuant to Section 2(c) of the Certificate of Designation, Preferences and Rights of the Series A Convertible Preferred Stock, in lieu of exercising this Warrant pursuant to Section 1(b), the Holder may elect to receive, without the payment by the Holder of any additional consideration, shares of Series A Preferred Stock equal to the value of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to the holder hereof a number of shares of Series A Preferred Stock computed using the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where: X = The number of shares of Series A Preferred Stock to be issued to the Holder pursuant to this net exercise;

Y = The number of shares of Series A Preferred Stock in respect of which the net issue election is made;

A = The fair market value of one share of the Series A Preferred Stock at the time the net issue election is made;

B = The Exercise Price (as adjusted to the date of the net issuance).

For purposes of this Section 1(c), the fair market value of one share of Series A Preferred Stock (or Common Stock, to the extent all such Series A Preferred Stock has been converted into the Company's Common Stock) as of a particular date shall be determined as follows: (i) if traded on a securities exchange or through the Nasdaq National Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; (ii) if traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; and (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Company; provided, however, that, if the Warrant is being exercised upon the closing of the IPO, the value will be the initial "Price to Public" of one share of such Series A Preferred Stock (or Common Stock issuable upon conversion of such Series A Preferred Stock) specified in the final prospectus with respect to such offering (net of applicable underwriting commissions).

2. Notwithstanding the foregoing, however, the Company shall not be required to deliver any certificate for shares of stock upon exercise of this Warrant except in accordance with the provisions, and subject to the limitations of, Section 4 hereof and the restrictive legend on the first page hereof.

3. The Company covenants and agrees that the Warrant Shares will, upon issuance, delivery and receipt of consideration therefor, be duly authorized and issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights

represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of Warrant Shares to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that the Warrant Shares may be so issued without violation of any applicable law or regulation or of any pre-emptive or contractual rights of any person or entity.

4. No fractional shares of Series A Preferred Stock shall be issued upon the exercise of this Warrant, but, instead of any fraction of a share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Series A Preferred Stock as of the close of business on the date of the notice required by Section 1 above.

5. This Warrant, unless and until exercised, shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

6. Subject to the provisions of Section 12 and Section 15 of the Warrant Agreement, this Warrant and all rights hereunder are assignable.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer and this Warrant to be dated as of March 1, 2004.

AMEDICA CORPORATION

By: ______________________________

Its: ______________________________

Form of Election to Purchase

(To Be Executed Upon Exercise Of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant, to receive __________ shares of Series A Preferred Stock and herewith tenders payment for such shares to the order of CREATION CAPITAL LLC in the amount of $0.66 per share, as adjusted pursuant to the terms of that certain Warrant Agreement, in accordance with the terms hereof and the terms of the Warrant Agreement. The undersigned requests that a certificate for such shares be registered in the name of ______________ whose address is ______________ and that such shares be delivered to ______________ whose address is __________. If said number of shares is less than all of the shares of Series A Preferred Stock purchasable hereunder, the undersigned requests that a new Warrant representing the remaining balance of such shares be registered in the name of ______________ whose address is __________ and that such shares be delivered to __________ whose address is ______________.

Signature: ________________________________

Date: ________________________________

Form of Assignment

(To be executed upon assignment of Warrant)

FOR VALUE RECEIVED, ______________, hereby sells, assigns and transfers unto ______________ that certain warrant (the "Warrant") dated as of March 1, 2004, to purchase shares of Series A Preferred Stock of Amedica Corporation (the "Company"), together with all right, title and interest therein, and does hereby irrevocably constitute and appoint ______________ attorney, to transfer the Warrant on the books of the Company, with full power of substitution in the premises.

Date: ______________________________________

[ ]

By: ______________________________
Name:
Title:

NOTE: The above signature should correspond exactly with the name on the face of this Warrant.

Exhibit 4.4

WARRANT AGREEMENT

THIS WARRANT AGREEMENT, dated as of October 25, 2004 (the "Warrant Agreement"), is by and between CREATION CAPITAL LLC, a Delaware limited liability company ("Creation Capital"), and AMEDICA CORPORATION, a Delaware corporation (the "Company").

WHEREAS, pursuant to the letter dated August 10, 2004, as amended on September 23, 2004 (the "Engagement Letter"), Creation Capital was engaged by the Company as the exclusive placement agent to the Company in the United States in connection with the private placement of up to $5.0 million of the Company's Series B Convertible Preferred Stock (the "Stock"); and

WHEREAS, the Engagement Letter provides that upon each closing of the sale of Stock, Creation Capital shall receive warrants to purchase a number of shares of Stock equal to ten percent (10%) of the total number of shares of Stock sold at such closing; and

WHEREAS, the Engagement Letter further provides that the warrants shall be issued pursuant to a definitive warrant agreement mutually agreed to by the Company and Creation Capital.

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purposes of defining terms and provisions of the Warrants and the certificates representing the Warrants and the respective rights and obligations thereunder of the Company, Creation Capital and the holders of certificates representing the Warrants, the parties hereto agree as follows:

Section 1. Form of Warrant. The Company shall grant to Creation Capital (Creation Capital and/or its assigns are collectively referred to herein as the "Holder") warrant(s) (the "Warrant"), in the form of Exhibit A hereto to purchase shares of Stock at a purchase price of $1.32 per share (the "Exercise Price") all as more fully set forth herein. The Warrant shall be executed on behalf of the Company by the Chief Executive Officer or any other authorized officer of the Company, and dated as of the date of issuance of the Warrant.

Section 2. Exercise Period of Warrant. The Warrant shall be exercisable at any time commencing on the first anniversary of the date of issuance of the Warrant and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date of issuance of the Warrant (the "Warrant Termination Date"); provided, however, that in the event of (a) the closing of the issuance and sale of shares of the common stock, $.01 par value per share (the "Common Stock"), of the Company in the Company's first underwritten public offering ("IPO") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act") or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

Section 3. *Term of Warrant Agreement*. Except as otherwise expressly provided herein, this Warrant Agreement shall become void and all rights hereunder and all rights in respect thereof under the Warrant shall cease as of the Warrant Termination Date except to the extent that the Warrant is exercised prior to such date.

Section 4. *Number of Shares*. The Warrant shall be exercisable for up to the number of shares of Stock as shall be indicated on the Warrant, subject to adjustment as provided herein (the "Warrant Shares").

Section 5. *Adjustment Provisions*. The Exercise Price and the number of shares of Stock underlying the Warrant shall be subject to adjustment from time to time as hereinafter set forth:

(a) *Stock Dividends – Stock Splits*. If after the date hereof, the number of outstanding shares of Stock is increased by a stock dividend payable in shares of Stock or by a sub-division or a stock split of shares of Stock or other similar event as described in the Certificate of Designation, Preferences and Rights of the Stock, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be increased in proportion to such increase in outstanding shares.

(b) *Aggregation of Shares*. If after the date hereof, the number of outstanding shares of Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Stock or other similar event, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be decreased in proportion to such decrease in outstanding shares.

(c) *Adjustments in Exercise Price*. Whenever the number of the shares of Stock issuable upon the exercise of the Warrant is adjusted, as provided in Sections 5(a) and (b), the Exercise Price shall be adjusted (to the nearest cent) by multiplying such Exercise Price immediately prior to such adjustment by a fraction (x) the numerator of which shall be the number of the shares of Stock purchasable upon the exercise of the Warrant immediately prior to such adjustment and (y) the denominator of which shall be the number of the shares of Stock so purchasable immediately thereafter.

(d) *When De Minimis Adjustment May Be Deferred.* No adjustment in the Exercise Price need be made unless the adjustment would require an increase or decrease of at least 1% in the Exercise Price. Any adjustments that are not made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 5 shall be made to the nearest $1/100^{th}$ of a share.

(e) *Notice*. Whenever there shall be an adjustment as provided in this Section 5, the Company shall promptly cause written notice thereof to be sent to the Holder in accordance with Section 13 hereof, which notice shall be accompanied by an officer's certificate setting forth the number of Warrant Shares purchasable upon the exercise of this Warrant and the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment and the computation thereof. Additionally, in case at any time the Company shall propose:

(i) to pay any dividend or make any distribution on shares of Stock in shares of Stock or make any other distribution to all holders of Stock; or

(ii) to issue any rights, warrants or other securities to all holders of Stock entitling them to purchase any additional shares of Stock or any other rights, warrants or other securities; or

(iii) to effect any reclassification or change of outstanding shares of Stock, or any consolidation, merger or sale; or

(iv) to effect any liquidation, dissolution or winding-up of the Company;

then, and in any one or more of such cases, the Company shall give written notice thereof to the Holder in accordance with Section 13 hereof, which notice shall be sent at least fifteen (15) days prior to (i) the date as of which the holders of record of shares of Stock to be entitled to receive any such dividend, distribution, rights, warrants, other securities are to be determined or (ii) the date on which any such reclassification, change of outstanding shares of Stock, consolidation, merger, sale, liquidation, dissolution or winding-up is expected to become effective, and the date as of which it is expected that holders of record of shares of Stock shall be entitled to exchange their shares for securities or other property, if any, deliverable upon such reclassification, change of outstanding shares, consolidation, merger, sale, liquidation, dissolution or winding-up.

Section 6. Representations, Warranties and Covenants of the Company. The Company hereby represents, warrants and covenants to Holder as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing as a foreign corporation in each jurisdiction in which the nature of its business makes such qualification necessary and where the failure to so qualify would have a material adverse effect on its business or operations. The Company has all requisite corporate power and authority to carry out its business as presently conducted and as proposed to be conducted and to enter into and discharge its obligations under this Warrant Agreement and the Warrant.

(b) The execution and delivery of this Warrant Agreement and the Warrant by the Company and its performance and compliance with the terms of this Warrant Agreement and the Warrant have been duly authorized by all necessary corporate action on the part of the Company.

(c) The consummation of the transactions contemplated by this Warrant Agreement and the Warrant will not (i) conflict with, result in any breach of any of the terms and

provisions of, or constitute (with or without notice or lapse of time or both) a default under, the certificate of incorporation or bylaws of the Company, or any material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument to which the Company is a party or by which it or any of its properties is bound, (ii) result in the creation or imposition of any lien, adverse claim or other encumbrance upon any of the properties of the Company pursuant to the terms of any such material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument, or (iii) violate any law or order, rule or regulation applicable to the Company of any court or of any federal or state regulatory body, administrative agency, or other governmental instrumentality having jurisdiction over the Company or any of its properties.

(d) The Warrant Agreement and the Warrant each constitutes a legal, valid and binding obligation of the Company and is enforceable against the Company in accordance with the terms hereof and thereof, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and by general principles of equity (whether considered in a proceeding or action in equity or at law).

(e) The Company shall at all times keep a sufficient number of authorized but unissued shares of Stock reserved for issuance upon the exercise of the Warrant. The Warrant Shares, when issued, delivered and paid for in accordance with the terms of this Warrant Agreement and the Warrant, will be duly and validly issued, fully paid and non-assessable and will not have been issued in violation of the pre-emptive or contractual rights of any person or entity.

(f) The Company shall deliver to each Holder of ten percent (10%) or more of the aggregate Warrant Shares such information and reports relating to the Company as the Company is required to provide to other holders of the Stock. The rights of such Holders under this Section 6(f) shall terminate upon the closing of the IPO.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of the Warrant or any certificate representing Warrant Shares, and, in the case of any such loss, theft or destruction, upon delivery of indemnity (which may include a bond) reasonably satisfactory to the Company, or, in the case of any such mutilation, upon surrender and cancellation of the Warrant or any certificate representing Warrant Shares, as the case may be, the Company will issue a new Warrant or certificates representing Warrant Shares, as the case may be, of like tenor representing an equivalent interest or right, in lieu of such lost, stolen, destroyed or mutilated Warrant or certificates representing Warrant Shares, as the case may be. The applicant for such replacement Warrant shall comply with such other reasonable requests as the Company may reasonably prescribe.

Section 7. Representations, Warranties and Covenants of Holder. Holder hereby represents, warrants and covenants to the Company as follows:

(a) Holder is acquiring the Warrant, and upon exercise of the Warrant will acquire the Warrant Shares, for its own account with no intention of distributing or reselling the

Warrant or Warrant Shares in any transaction that would be a violation of the securities laws of the United States or any state, without prejudice to the Holder's rights at all times to sell or otherwise dispose of all or part of such Warrant under a registration under the Securities Act or an exemption available thereto. Holder is aware that neither the Warrant nor the Warrant Shares are registered under the Securities Act or any state or other jurisdiction's securities laws, and that Holder must hold the Warrant and the Warrant Shares indefinitely unless subsequently registered or an exemption from registration is available. Holder understands and agrees that the Warrant will bear the restrictive legend set forth on the Warrant and that the Warrant Shares will bear the legend set forth in Section 12 of this Warrant Agreement. Holder represents and warrants that it is an "accredited investor" as that term is defined in Rule 501 of Regulation D promulgated under the Securities Act.

Section 8. Shelf Registration.

(a) As promptly as practicable following the eligibility of the Company or its successor to file a Registration Statement on Form S-3 (or any successor or similar short-form registration statement, a "Shelf Registration Statement"), subject to the limitations herein, the Holder may request, in writing, that the Company file a Shelf Registration Statement with respect to the shares of Common Stock issuable upon conversion of the Warrant Shares (the "Registrable Securities"). In such a notice, the Holder shall advise the Company of the number of Registrable Securities to be included in the Shelf Registration Statement. The Company shall use its best efforts to have such Shelf Registration Statement declared effective by the U.S. Securities and Exchange Commission ("SEC") as promptly as practicable thereafter. The Company shall use its best efforts to keep any such Shelf Registration Statement continuously effective for the period of at least twenty-four months beginning on the date on which such Shelf Registration Statement is declared effective. The Holder shall provide such information as may be reasonably requested by the Company in connection with the filing of the Shelf Registration Statement or in order to maintain its effectiveness.

(b) Notwithstanding the foregoing, the Company shall not be obligated to file any Shelf Registration Statement pursuant to this Section 8 unless the Registrable Securities to be sold have an anticipated aggregate offering price of at least $10,000,000 (before underwriter's discounts and commissions). In addition, the Company shall not be obligated to effect any Shelf Registration Statement pursuant to this Section 8 if, in the good faith determination of the Board of Directors, the filing of such registration statement would be detrimental to the Company or its stockholders due to pending material corporate developments or similar material events that have not yet been publicly disclosed and as to which the Company believes that public disclosure would be prejudicial to the Company and may delay such Shelf Registration Statement for a period not in excess of ninety (90) days from such determination. The Company shall be obligated to effect no more than two Shelf Registration Statements during any one calendar year.

(c) The Company shall pay all expenses incurred in connection with a registration pursuant to this Section, including, without limitation, all registration, qualification, printing and accounting fees, all fees and disbursements of counsel for the Company, and all reasonable fees and disbursements of one counsel for the Holders as a group. The Company shall pay all registration fees and other expenses applicable to the Registrable Securities included in the Shelf Registration Statement, provided, that the Holder will be responsible for all underwriting discounts and commissions allocable to the securities sold by such holder.

Section 9. Piggyback Registration.

(a) If the Company proposes to register any of its equity securities, either for its own account or for the account of any Person, but not including a registration relating to (i) employee stock option or purchase plans, or (ii) a transaction pursuant to Rule 145 under the Securities Act (a "Piggyback Registration"), the Company will:

(i) promptly give written notice thereof to the Holder; and

(ii) use its best efforts to include in such Piggyback Registration and in any underwriting involved therein up to all of the Registrable Securities which the Holder requests in writing to be so included within thirty days after receipt of such written notice from the Company.

The Company shall pay, and shall reimburse the Holder for paying, any expenses incurred in connection with a Piggyback Registration requested pursuant to this Section, including, without limitation, all registration, qualification, printing and accounting fees, all fees and disbursements of counsel for the Company, and all reasonable fees and disbursements of one counsel for the Holders as a group; provided, that the Holder will be responsible for all underwriting discounts and commissions allocable to the securities sold by such holder.

(b) If the registration of which the Company gives notice is for a public offering involving an underwriting, the Company shall so advise the Holder as a part of the written notice given pursuant to this Section, and the right of the Holder to include Registrable Securities in such registration shall be conditioned upon the Holder participation in such underwriting and the entry of the Holder into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by the Company.

(c) If the underwriter of the registered public offering referred to in this Section shall advise the Company in writing that marketing factors require a limitation of the amount of securities to be underwritten, securities shall be included in such offering in the following priority: *first*, securities to be registered by the Company and/or securities requested to be included pursuant to the exercise of demand registration rights granted by the Company in such priority and proportions as may be agreed among such parties; *second*, the securities requested to be included in such registration by the Holder pursuant to this Section, the investors who purchased Stock in the offering, and other parties requesting Piggyback Registration rights of the type provided in this Section and having the same priority, *pro rata* based upon the number of securities requested to be included by such parties; *third*, the securities requested to be included in such registration by principals of the Company pursuant to the exercise of Piggyback Registration rights of the type provided in this Section, *pro rata* on the basis of the number of such securities requested to be included by such principal; and *fourth*, other securities for the account of Persons, including the Holder, allocated among such Persons in accordance with the priorities then existing among the Company and such Persons. Any securities excluded pursuant to the provisions of this Section shall be withdrawn from and shall not be included in such Piggyback Registration.

(d) Notwithstanding the foregoing, the Company shall not be obligated to effect any Piggyback Registration pursuant to this Section 9 if, in the good faith determination of the Board of Directors, the filing of such registration statement would be detrimental to the Company or its stockholders due to pending material corporate developments or similar material events that have not yet been publicly disclosed and as to which the Company believes that public disclosure would be prejudicial to the Company and may delay such Piggyback Registration Statement for a period not in excess of ninety (90) days from such determination

Section 10. Registration Procedures.

(a) In the case of a registration to be effected by the Company pursuant to this Warrant Agreement in which the Holder is participating, the Company will keep the Holder advised in writing as to the initiation of such registration and as to the completion thereof. In connection with such offering, the Company shall promptly:

(1) prepare and file with the SEC a registration statement with respect to the Registrable Securities and its best efforts to cause such registration statement to become effective for a period of at least 60 days or until the distribution described in the registration statement relating thereto has been completed, whichever shall first occur;

(2) in connection with the preparation and filing of a registration statement, give the Holder, its underwriters, if any, and its counsel, the opportunity (over a reasonable period of time) to review and comment upon any such registration statement, each prospectus included therein or filed with the SEC, and each amendment thereof or supplement thereto, and give each of them access to financial and other records, pertinent corporate documents and properties of the Company and an opportunity to discuss the business of the Company with its officers, its counsel and the independent public accountants who have certified its financial statements as shall be necessary, in the opinion of the Holder and the underwriters' respective counsel, to conduct a reasonable due diligence investigation within the requirements of the Securities Act;

(3) furnish to the Holder and to the underwriters, if any, of the securities being registered such number of copies of the registration statement, preliminary prospectus, final prospectus and other documents incident thereto as such underwriters and the Holder from time to time may request;

(4) prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement;

(5) register or qualify the Registrable Securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be requested by the Holder for the distribution of the Registrable Securities covered by the registration statement to be sold by the Company;

(6) enter into an underwriting agreement in customary form and substance satisfactory to the Holder and the managing underwriter or underwriters of the public offering of such securities, if the offering is to be underwritten, in whole or in part;

(7) notify the Holder at any time when a prospectus relating thereto covered by such registration statement is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(8) cause all such Registrable Securities to be listed on a national securities exchange or on Nasdaq;

(9) unless any Registrable Securities shall be in book-entry form, cooperate with the Holder to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold pursuant to any registration statement free of any restrictive legend and in such permitted denominations and registered in such names as the Holder may request in connection with the sale of Registrable Securities pursuant to such registration statement; and

(10) otherwise use its commercially reasonable efforts to comply with all applicable rules and regulations of the SEC, and make available to the Holder, as soon as reasonably practicable, an earnings statement covering the period of at least 12 months, but not more than 18 months, beginning with the first full calendar month after the effective date of such registration statement, which earnings statement shall satisfy the provisions of the Securities Act.

(b) Indemnification.

(1) Indemnification by the Company. The Company will indemnify each Holder requesting or joining in a registration and each underwriter of the securities so registered, the officers, directors and partners of each such person and each person who controls any thereof (within the meaning of the Securities Act) against any and all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, or any violation by the Company of any rule or regulation promulgated under the Securities Act applicable to the Company and relating to any action or inaction required of the Company in connection with any such registration, qualification or compliance, and the Company will reimburse each such Holder, underwriter, officer, director, partner and controlling person for any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such claim, loss, damage or

liability arises out of or is based on any untrue statement or omission based upon written information furnished to the Company in an instrument duly executed by such Holder, underwriter, officer, director, partner or controlling person and stated to be specifically for use in such prospectus or registration statement.

(2) Indemnification by Each Holder. Each Holder requesting or joining in a registration, will indemnify, severally and not jointly, each underwriter of the securities so registered, the Company and its officers who sign the registration statement and directors and each person, if any, who controls any thereof (within the meaning of the Securities Act) and their respective successors and assigns against any and all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, and such Holder will reimburse each underwriter, the Company and each other person indemnified pursuant to this paragraph for any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action; provided, however, that this paragraph shall apply only if (and only to the extent that) such statement or omission was made in reliance upon written information furnished to such underwriter or the Company in an instrument duly executed by such Holder and stated to be specifically for use in such prospectus, offering circular or other document (or related registration statement, notification or the like) or any amendment or supplement thereto; and, provided further, that each Holder's liability hereunder with respect to any particular registration shall be limited to an amount equal to the net proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

(3) Indemnification Proceedings. Each party entitled to indemnification pursuant to this Section 10(b) (the "Indemnified Party") shall give notice to the party required to provide indemnification pursuant to this Section 10(b) (the "Indemnifying Party") promptly after such Indemnified Party acquires actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party (at its expense) to assume the defense of any claim or any litigation resulting therefrom; provided that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be reasonably acceptable to the Indemnified Party, and the Indemnified Party may participate in such defense at such party's expense; and provided, further, that the failure by any Indemnified Party to give notice as provided in this paragraph shall not relieve the Indemnifying Party of its obligations under this Section 10(b) except to the extent that the failure results in a failure of actual notice to the Indemnifying Party and such Indemnifying Party is damaged solely as a result of the failure to give notice. No Indemnifying Party, in the defense of any such claim or litigation, shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect to such claim or litigation and no Indemnified Party shall consent to entry of any judgment or settle such claim or litigation without the prior written consent of the Indemnifying Party so long as the Indemnifying Party has acknowledged in writing its obligation to indemnify and is in compliance with all of its obligations hereunder to indemnify the Indemnified Party for all amounts in connection with

such claim or litigation and which consent shall not be unreasonably withheld. If the defendants in any action subject to this Section 10(b) include both the Indemnified Party and the Indemnifying Party and the Indemnified Party shall have reasonably concluded that there may be reasonable defenses available to it which are different from or additional to those available to the Indemnifying Party or if the interests of the Indemnified Party reasonably may be deemed to conflict with the interests of the Indemnifying Party, the Indemnified Party shall have the right to select a separate counsel and to assume such legal defenses and otherwise to participate in the defense of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the Indemnifying Party as incurred.

(c) Contribution in Lieu of Indemnification. If the indemnification provided for in Section 10(b) hereof is unavailable to a party that would have been an Indemnified Party under any such section in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each party that would have been an Indemnifying Party thereunder shall, in lieu of indemnifying such Indemnified Party, contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party on the one hand and such Indemnified Party on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof). The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Indemnifying Party or such Indemnified Party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and each Holder of Registrable Securities agree that it would not be just and equitable if contribution pursuant to this Section 10(c) were determined by pro-rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 10(c). The amount paid or payable by an Indemnified Party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this Section 10(c) shall include any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending any such action or claim. Notwithstanding any provision of this Section 10(c) to the contrary, (a) no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation and (b) each Holder's liability hereunder with respect to any particular registration shall be limited to an amount equal to the net proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

Section 11. *Effect of Registration Rights of Heirs, Assigns, Beneficiaries, Successors and Transferees*. The heirs, assigns, beneficiaries and successor of the Holder shall be entitled to all of the registration rights set forth in Sections 8 through 10 of this Warrant Agreement; *provided*, *however*, that such Person or Persons will be able to exercise such rights of the Holder only if it or they have at least 5% of the equity interest in the Company.

Section 12. *Transfers and Exchanges*. Subject to the terms of Section 15 hereof, the Company shall from time to time register the transfer of the Warrant in a Warrant register to

be maintained by the Company upon surrender thereof accompanied by a written instrument or instruments of transfer in the form of assignment attached hereto or as otherwise may be satisfactory to the Company, duly executed by the Holder thereof or by the duly appointed legal representative thereof or by a duly authorized attorney. Upon any such transfer, the surrendered Warrant shall be canceled and disposed of by the Company and a new Warrant shall be issued to the transferee(s). The Holder agrees that prior to any proposed transfer of the Warrant or of the Warrant Shares, if such transfer is not made pursuant to an effective registration statement under the Securities Act and any applicable state securities laws, the Holder shall deliver to the Company:

(a) an investment covenant substantially similar to Section 7(a) and otherwise reasonably satisfactory to the Company signed by the proposed transferee;

(b) an agreement by such transferee to the impression of the restrictive investment legend set forth below on the Warrant or the Warrant Shares;

(c) an agreement by such transferee that the Company may place a notation in the stock books of the Company or a "stop transfer order" with any transfer agent or registrar with respect to the Warrant Shares;

(d) an agreement by such transferee to be bound by the provisions of this Section 12 relating to the transfer of such Warrant or Warrant Shares; and

(e) an opinion of counsel, reasonably satisfactory in form and substance to the Company, that the transfer is exempt from registration requirements under the Securities Act and any applicable state securities laws.

The Holder agrees that each Warrant and each certificate representing Warrant Shares will bear the following legend:

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Section 13. Notices. All demands, notices and communications relating to this Warrant Agreement or any Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows:

If to the Company:

Amedica Corporation
2116 South Lakeline Drive
Salt Lake City, Utah 84109
Attention: Ashok Khandkar,
Chief Executive Officer
Telephone: (801) 535-4355
Telecopy: (801) 584-2533

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

Creation Capital LLC
630 Fifth Avenue – Rockefeller Center, Suite 2000
New York, New York 10111
Attention: Gregg R. Honigblum,
Chief Executive Officer
Telephone: (212) 332-1623
Telecopy: (212) 218-3761

with a copy to:

Winston & Strawn
200 Park Avenue
New York, New York 10166
Attention: Nick Krylov, Esq.
Telephone: (212) 294-6617
Telecopy: (212) 294-4700

Any such demand, notice or communication hereunder shall be deemed to have been duly given when received by the other party or parties at the address shown above or on the next succeeding business day if the date of receipt is not a business day, or such other address as may hereafter be furnished to the other party or parties by like notice and shall be deemed to have been received on the date delivered to or received at the premises of the addresses.

Section 14. Counterparts. For the purpose of facilitating the execution of this Warrant Agreement and for other purposes, this Warrant Agreement may be executed simultaneously in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute and be one and the same instrument; and such counterparts may be delivered via facsimile to the numbers designated in or pursuant to Section 13.

Section 15. *Assignability*. Subject to the provisions set forth in Section 12, the Holder may assign the rights and interests under this Warrant Agreement to any person without the Company's consent; provided, however, that in the event such assignee (other than an assignee which is a Holder Affiliate (as such term is defined below)) is reasonably deemed by the Company to compete with the Company in its traditional business activities (a "competitor"), the Company shall not be required to furnish to such assignee information and reports relating to the Company pursuant to Section 6(f) of this Agreement and, upon notice given by the Company to Holder that such assignee is deemed a "competitor," Holder shall not furnish to such assignee any information or reports relating to the Company, without the Company's prior written consent; and provided, further, however, that no such assignment shall be made to the extent such transfer would subject the Company to the reporting requirements of the Securities Exchange Act of 1934, as amended. The Holder shall promptly cause written notice of any such transfer to be sent to the Company in accordance with Section 13 hereof at least fourteen (14) days prior to such transfer. Notwithstanding the foregoing or any other provision to the contrary, the Warrant and the Warrant Shares will be "restricted securities" as defined in Rule 144 under the Securities Act, and thus will not be transferable except in compliance with applicable federal and state securities laws and regulations. "Holder Affiliate" shall mean any person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such Holder.

Section 16. *Governing Law; Jurisdiction; Waiver of Jury Trial*.

(a) *Governing Law*. This Warrant Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

(b) *Jurisdiction*. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any New York State or Federal court sitting in New York City in any action or proceeding arising out of or relating to this Warrant Agreement or the Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 13. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Jury Trial.* **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT AGREEMENT OR ANY WARRANT ISSUED HEREUNDER.**

Section 17. Amendments. This Warrant Agreement may be amended from time to time by written instrument signed by the Company and the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant and no waiver of any of the terms hereof shall be effective unless it is in writing and signed by the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant or the Company, as the case may be. Any amendment or waiver pursuant to this Section 17 shall be binding on all Holders of the Warrant Shares and may be given retroactive, prospective or concurrent effect, depending upon the language in such amendment or waiver.

Section 18. No Waiver. No failure on the part of the Holder or the Company to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Section 19. Termination. This Warrant Agreement shall terminate on the Warrant Termination Date. Notwithstanding the foregoing, this Warrant Agreement will terminate on any earlier date if the Warrant has been exercised in full.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have caused this Warrant Agreement to be duly executed by their respective officers on the day and year first above written.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Name: Ashok Khandkar
Title: Chief Executive Officer

CREATION CAPITAL LLC

By: /s/ Gregg R. Honigblum
Name: Gregg R. Honigblum
Title: Chief Executive Officer

Exhibit A

Form of Warrant

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Exercisable on or before
the Warrant Termination Date
(as defined below)

WARRANT TO PURCHASE SERIES B CONVERTIBLE PREFERRED STOCK

To Subscribe for and Purchase Series B Convertible Preferred Stock

of

AMEDICA CORPORATION

WARRANT NO.

This certifies that, for value received, Creation Capital LLC, a Delaware limited liability company ("Creation Capital"), or its assigns (Creation Capital and/or its assigns are collectively referred to herein as the "Holder"), is entitled to subscribe for and purchase from Amedica Corporation, a Delaware corporation (the "Company"), at any time commencing on the first anniversary of the date hereof and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date hereof (the "Warrant Termination Date"), shares (the "Warrant Shares") of the Company's Series B Convertible Preferred Stock, par value $.01 per share (the "Series B Preferred Stock"), subject to adjustment as provided in that certain Warrant Agreement, dated as of March 1, 2004, by and between the Company and Creation Capital (the "Warrant Agreement"), at an exercise price of $1.32 per share, as such exercise price may be adjusted from time to time under the Warrant Agreement. No Warrant may be exercised after the Warrant Termination Date.

In the event of (a) the closing of the issuance and sale of shares of common stock, $.01 par value per share (the "Common Stock"), of the Company in the Company's first underwritten public offering ("IPO") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act") or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

This Series B Preferred Stock Purchase Warrant and all Series B Preferred Stock Purchase Warrants issued in substitution or exchange therefor are herein individually called a "Warrant" and collectively called "Warrants."

This Warrant is issued pursuant to and, subject to the terms and conditions of, the Warrant Agreement, which Warrant Agreement is incorporated by reference in and made a part of this instrument. Capitalized terms not otherwise defined herein shall have the meanings given them in the Warrant Agreement. Any conflict between the terms of this Warrant and the Warrant Agreement shall be resolved in favor of the terms of the Warrant Agreement.

This Warrant is further subject to the following provisions, terms and conditions:

1. (a) In order to exercise this Warrant, in whole or in part, the Holder shall deliver to the Company, at the office the Company designated for such purpose in Section 13 of the Warrant Agreement, (i) the form of election to purchase set forth herein properly completed and signed, (ii) payment of the Warrant Price pursuant to Section 1(b), and (iii) this Warrant. Upon receipt of the items referred to in clauses (i), (ii) and (iii) above, the Company shall, as promptly as practicable, and in any event within ten (10) days thereafter, execute or cause to be executed and deliver or cause to be delivered to the Holder a certificate or certificates, in such name or names as the Holder may designate, representing the aggregate number of full shares of Series B Preferred Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided in Section 4. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Series B Preferred Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Payment to the Company of the purchase price for the Warrant Shares so purchased (the " Warrant Price") may be made, at the option of the Holder, by payment of the Warrant Price in cash or by wire transfer or cashier's check drawn on a United States bank.

(c) Net Exercise. In the event of any exercise of this Warrant in connection with a mandatory conversion of the Series B Preferred Stock into shares of the Company's

Common Stock pursuant to Article IV, Section C(2)(c) of the Certificate of Incorporation, in lieu of exercising this Warrant pursuant to Section 1(b), the Holder may elect to receive, without the payment by the Holder of any additional consideration, shares of Series B Preferred Stock equal to the value of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to the holder hereof a number of shares of Series B Preferred Stock computed using the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where: X = The number of shares of Series B Preferred Stock to be issued to the Holder pursuant to this net exercise;

Y = The number of shares of Series B Preferred Stock in respect of which the net issue election is made;

A = The fair market value of one share of the Series B Preferred Stock at the time the net issue election is made;

B = The Exercise Price (as adjusted to the date of the net issuance).

For purposes of this Section 1(c), the fair market value of one share of Series B Preferred Stock (or Common Stock, to the extent all such Series B Preferred Stock has been converted into the Company's Common Stock) as of a particular date shall be determined as follows: (i) if traded on a securities exchange or through the Nasdaq National Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; (ii) if traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; and (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Company; provided, however, that, if the Warrant is being exercised upon the closing of the IPO, the value will be the initial "Price to Public" of one share of such Series B Preferred Stock (or Common Stock issuable upon conversion of such Series B Preferred Stock) specified in the final prospectus with respect to such offering (net of applicable underwriting commissions).

2. Notwithstanding the foregoing, however, the Company shall not be required to deliver any certificate for shares of stock upon exercise of this Warrant except in accordance with the provisions, and subject to the limitations of, Section 4 hereof and the restrictive legend on the first page hereof.

3. The Company covenants and agrees that the Warrant Shares will, upon issuance, delivery and receipt of consideration therefor, be duly authorized and issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized,

and reserved for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of Warrant Shares to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that the Warrant Shares may be so issued without violation of any applicable law or regulation or of any pre-emptive or contractual rights of any person or entity.

4. No fractional shares of Series B Preferred Stock shall be issued upon the exercise of this Warrant, but, instead of any fraction of a share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Series B Preferred Stock as of the close of business on the date of the notice required by Section 1 above.

5. This Warrant, unless and until exercised, shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

6. Subject to the provisions of Section 12 and Section 15 of the Warrant Agreement, this Warrant and all rights hereunder are assignable.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer and this Warrant to be dated as of   , 2004.

AMEDICA CORPORATION

By: ______________________

Its: ______________________

Form of Election to Purchase

(To Be Executed Upon Exercise Of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant, to receive shares of Series B Preferred Stock and herewith tenders payment for such shares to the order of CREATION CAPITAL LLC in the amount of $1.32 per share, as adjusted pursuant to the terms of that certain Warrant Agreement, in accordance with the terms hereof and the terms of the Warrant Agreement. The undersigned requests that a certificate for such shares be registered in the name of whose address is and that such shares be delivered to whose address is . If said number of shares is less than all of the shares of Series B Preferred Stock purchasable hereunder, the undersigned requests that a new Warrant representing the remaining balance of such shares be registered in the name of whose address is and that such shares be delivered to whose address is .

Signature: ______________________________

Date: ______________________________

Form of Assignment

(To be executed upon assignment of Warrant)

FOR VALUE RECEIVED, , hereby sells, assigns and transfers unto that certain warrant (the "Warrant") dated as of , 2004, to purchase shares of Series B Preferred Stock of Amedica Corporation (the "Company"), together with all right, title and interest therein, and does hereby irrevocably constitute and appoint attorney, to transfer the Warrant on the books of the Company, with full power of substitution in the premises.

Date: ____

[ ]

By: ____
Name:
Title:

NOTE: The above signature should correspond exactly with the name on the face of this Warrant.

Exhibit 4.5

WARRANT AGREEMENT

THIS WARRANT AGREEMENT, dated of February 24, 2006 (the "Warrant Agreement"), is by and between CREATION CAPITAL LLC, a Delaware limited liability company ("Creation Capital"), and AMEDICA CORPORATION, a Delaware corporation (the "Company").

WHEREAS, pursuant to the letter dated November 14, 2005 (the "Engagement Letter"), Creation Capital was engaged by the Company as the exclusive placement agent to the Company in the United States in connection with the private placement of up to $14.0 million, subject to an over-allotment of up to $2,800,000, of the Company's Series C Convertible Preferred Stock (the "Stock"); and

WHEREAS, the Engagement Letter provides that upon each closing of the sale of Stock, Creation Capital shall receive warrants to purchase a number of shares of Stock equal to fifteen percent (15%) of the total number of shares of Stock sold at such closing; and

WHEREAS, the Engagement Letter further provides that the warrants shall be issued pursuant to a definitive warrant agreement mutually agreed to by the Company and Creation Capital.

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purposes of defining terms and provisions of the Warrants and the certificates representing the Warrants and the respective rights and obligations thereunder of the Company, Creation Capital and the holders of certificates representing the Warrants, the parties hereto agree as follows:

Section 1. *Form of Warrant*. The Company shall grant to Creation Capital (Creation Capital and/or its assigns are collectively referred to herein as the "Holder") warrant(s) (the "Warrant"), in the form of Exhibit A hereto to purchase shares of Stock at a purchase price of $2.20 per share (the "Exercise Price") all as more fully set forth herein. The Warrant shall be executed on behalf of the Company by the Chief Executive Officer or any other authorized officer of the Company, and dated as of the date of issuance of the Warrant.

Section 2. *Exercise Period of Warrant*. The Warrant shall be exercisable at any time commencing on the first anniversary of the date of issuance of the Warrant and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date of issuance of the Warrant (the "Warrant Termination Date"); provided, however, that in the event of (a) the closing of the issuance and sale of shares of the common stock, $.01 par value per share (the "Common Stock"), of the Company in the Company's first underwritten public offering ("IPO") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act") or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

Section 3. Term of Warrant Agreement. Except as otherwise expressly provided herein, this Warrant Agreement shall become void and all rights hereunder and all rights in respect thereof under the Warrant shall cease as of the Warrant Termination Date except to the extent that the Warrant is exercised prior to such date.

Section 4. Number of Shares. The Warrant shall be exercisable for up to the number of shares of Stock as shall be indicated on the Warrant, subject to adjustment as provided herein (the "Warrant Shares").

Section 5. Adjustment Provisions. The Exercise Price and the number of shares of Stock underlying the Warrant shall be subject to adjustment from time to time as hereinafter set forth:

(a) *Stock Dividends – Stock Splits*. If after the date hereof, the number of outstanding shares of Stock is increased by a stock dividend payable in shares of Stock or by a sub-division or a stock split of shares of Stock or other similar event as described in the Certificate of Designation, Preferences and Rights of the Stock, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be increased in proportion to such increase in outstanding shares.

(b) *Aggregation of Shares*. If after the date hereof, the number of outstanding shares of Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Stock or other similar event, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be decreased in proportion to such decrease in outstanding shares.

(c) *Adjustments in Exercise Price*. Whenever the number of the shares of Stock issuable upon the exercise of the Warrant is adjusted, as provided in Sections 5(a) and (b), the Exercise Price shall be adjusted (to the nearest cent) by multiplying such Exercise Price immediately prior to such adjustment by a fraction (x) the numerator of which shall be the number of the shares of Stock purchasable upon the exercise of the Warrant immediately prior to such adjustment and (y) the denominator of which shall be the number of the shares of Stock so purchasable immediately thereafter.

(d) *When De Minimis Adjustment May Be Deferred.* No adjustment in the Exercise Price need be made unless the adjustment would require an increase or decrease of at least 1% in the Exercise Price. Any adjustments that are not made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 5 shall be made to the nearest 1/100th of a share.

(e) *Notice*. Whenever there shall be an adjustment as provided in this Section 5, the Company shall promptly cause written notice thereof to be sent to the Holder in accordance with Section 13 hereof, which notice shall be accompanied by an officer's certificate setting forth the number of Warrant Shares purchasable upon the exercise of this Warrant and the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment and the computation thereof. Additionally, in case at any time the Company shall propose:

(i) to pay any dividend or make any distribution on shares of Stock in shares of Stock or make any other distribution to all holders of Stock; or

(ii) to issue any rights, warrants or other securities to all holders of Stock entitling them to purchase any additional shares of Stock or any other rights, warrants or other securities; or

(iii) to effect any reclassification or change of outstanding shares of Stock, or any consolidation, merger or sale; or

(iv) to effect any liquidation, dissolution or winding-up of the Company;

then, and in any one or more of such cases, the Company shall give written notice thereof to the Holder in accordance with Section 13 hereof, which notice shall be sent at least fifteen (15) days prior to (i) the date as of which the holders of record of shares of Stock to be entitled to receive any such dividend, distribution, rights, warrants, other securities are to be determined or (ii) the date on which any such reclassification, change of outstanding shares of Stock, consolidation, merger, sale, liquidation, dissolution or winding-up is expected to become effective, and the date as of which it is expected that holders of record of shares of Stock shall be entitled to exchange their shares for securities or other property, if any, deliverable upon such reclassification, change of outstanding shares, consolidation, merger, sale, liquidation, dissolution or winding-up.

Section 6. Representations, Warranties and Covenants of the Company. The Company hereby represents, warrants and covenants to Holder as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing as a foreign corporation in each jurisdiction in which the nature of its business makes such qualification necessary and where the failure to so qualify would have a material adverse effect on its business or operations. The Company has all requisite corporate power and authority to carry out its business as presently conducted and as proposed to be conducted and to enter into and discharge its obligations under this Warrant Agreement and the Warrant.

(b) The execution and delivery of this Warrant Agreement and the Warrant by the Company and its performance and compliance with the terms of this Warrant Agreement and the Warrant have been duly authorized by all necessary corporate action on the part of the Company.

(c) The consummation of the transactions contemplated by this Warrant Agreement and the Warrant will not (i) conflict with, result in any breach of any of the terms and

provisions of, or constitute (with or without notice or lapse of time or both) a default under, the certificate of incorporation or bylaws of the Company, or any material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument to which the Company is a party or by which it or any of its properties is bound, (ii) result in the creation or imposition of any lien, adverse claim or other encumbrance upon any of the properties of the Company pursuant to the terms of any such material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument, or (iii) violate any law or order, rule or regulation applicable to the Company of any court or of any federal or state regulatory body, administrative agency, or other governmental instrumentality having jurisdiction over the Company or any of its properties.

(d) The Warrant Agreement and the Warrant each constitutes a legal, valid and binding obligation of the Company and is enforceable against the Company in accordance with the terms hereof and thereof, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and by general principles of equity (whether considered in a proceeding or action in equity or at law).

(e) The Company shall at all times keep a sufficient number of authorized but unissued shares of Stock reserved for issuance upon the exercise of the Warrant. The Warrant Shares, when issued, delivered and paid for in accordance with the terms of this Warrant Agreement and the Warrant, will be duly and validly issued, fully paid and non-assessable and will not have been issued in violation of the pre-emptive or contractual rights of any person or entity.

(f) The Company shall deliver to each Holder of ten percent (10%) or more of the aggregate Warrant Shares such information and reports relating to the Company as the Company is required to provide to other holders of the Stock. The rights of such Holders under this Section 6(f) shall terminate upon the closing of the IPO.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of the Warrant or any certificate representing Warrant Shares, and, in the case of any such loss, theft or destruction, upon delivery of indemnity (which may include a bond) reasonably satisfactory to the Company, or, in the case of any such mutilation, upon surrender and cancellation of the Warrant or any certificate representing Warrant Shares, as the case may be, the Company will issue a new Warrant or certificates representing Warrant Shares, as the case may be, of like tenor representing an equivalent interest or right, in lieu of such lost, stolen, destroyed or mutilated Warrant or certificates representing Warrant Shares, as the case may be. The applicant for such replacement Warrant shall comply with such other reasonable requests as the Company may reasonably prescribe.

Section 7. Representations, Warranties and Covenants of Holder. Holder hereby represents, warrants and covenants to the Company as follows:

(a) Holder is acquiring the Warrant, and upon exercise of the Warrant will acquire the Warrant Shares, for its own account with no intention of distributing or reselling the

Warrant or Warrant Shares in any transaction that would be a violation of the securities laws of the United States or any state, without prejudice to the Holder's rights at all times to sell or otherwise dispose of all or part of such Warrant under a registration under the Securities Act or an exemption available thereto. Holder is aware that neither the Warrant nor the Warrant Shares are registered under the Securities Act or any state or other jurisdiction's securities laws, and that Holder must hold the Warrant and the Warrant Shares indefinitely unless subsequently registered or an exemption from registration is available. Holder understands and agrees that the Warrant will bear the restrictive legend set forth on the Warrant and that the Warrant Shares will bear the legend set forth in Section 12 of this Warrant Agreement. Holder represents and warrants that it is an "accredited investor" as that term is defined in Rule 501 of Regulation D promulgated under the Securities Act.

Section 8. Shelf Registration.

(a) As promptly as practicable following the eligibility of the Company or its successor to file a Registration Statement on Form S-3 (or any successor or similar short-form registration statement, a "Shelf Registration Statement"), subject to the limitations herein, the Holder may request, in writing, that the Company file a Shelf Registration Statement with respect to the shares of Common Stock issuable upon conversion of the Warrant Shares (the "Registrable Securities"). In such a notice, the Holder shall advise the Company of the number of Registrable Securities to be included in the Shelf Registration Statement. The Company shall use its best efforts to have such Shelf Registration Statement declared effective by the U.S. Securities and Exchange Commission ("SEC") as promptly as practicable thereafter. The Company shall use its best efforts to keep any such Shelf Registration Statement continuously effective for the period of at least twenty-four months beginning on the date on which such Shelf Registration Statement is declared effective. The Holder shall provide such information as may be reasonably requested by the Company in connection with the filing of the Shelf Registration Statement or in order to maintain its effectiveness.

(b) Notwithstanding the foregoing, the Company shall not be obligated to file any Shelf Registration Statement pursuant to this Section 8 unless the Registrable Securities to be sold have an anticipated aggregate offering price of at least $10,000,000 (before underwriter's discounts and commissions). In addition, the Company shall not be obligated to effect any Shelf Registration Statement pursuant to this Section 8 if, in the good faith determination of the Board of Directors, the filing of such registration statement would be detrimental to the Company or its stockholders due to pending material corporate developments or similar material events that have not yet been publicly disclosed and as to which the Company believes that public disclosure would be prejudicial to the Company and may delay such Shelf Registration Statement for a period not in excess of ninety (90) days from such determination. The Company shall be obligated to effect no more than two Shelf Registration Statements during any one calendar year.

(c) The Company shall pay all expenses incurred in connection with a registration pursuant to this Section, including, without limitation, all registration, qualification, printing and accounting fees, all fees and disbursements of counsel for the Company, and all reasonable fees and disbursements of one counsel for the Holders as a group. The Company shall pay all registration fees and other expenses applicable to the Registrable Securities included in the Shelf Registration Statement, provided, that the Holder will be responsible for all underwriting discounts and commissions allocable to the securities sold by such holder.

Section 9. *Piggyback Registration.*

(a) If the Company proposes to register any of its equity securities, either for its own account or for the account of any Person, but not including a registration relating to (i) employee stock option or purchase plans, or (ii) a transaction pursuant to Rule 145 under the Securities Act (a "Piggyback Registration"), the Company will:

(i) promptly give written notice thereof to the Holder; and

(ii) use its best efforts to include in such Piggyback Registration and in any underwriting involved therein up to all of the Registrable Securities which the Holder requests in writing to be so included within thirty days after receipt of such written notice from the Company.

The Company shall pay, and shall reimburse the Holder for paying, any expenses incurred in connection with a Piggyback Registration requested pursuant to this Section, including, without limitation, all registration, qualification, printing and accounting fees, all fees and disbursements of counsel for the Company, and all reasonable fees and disbursements of one counsel for the Holders as a group; provided, that the Holder will be responsible for all underwriting discounts and commissions allocable to the securities sold by such holder.

(b) If the registration of which the Company gives notice is for a public offering involving an underwriting, the Company shall so advise the Holder as a part of the written notice given pursuant to this Section, and the right of the Holder to include Registrable Securities in such registration shall be conditioned upon the Holder participation in such underwriting and the entry of the Holder into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by the Company.

(c) If the underwriter of the registered public offering referred to in this Section shall advise the Company in writing that marketing factors require a limitation of the amount of securities to be underwritten, securities shall be included in such offering in the following priority: *first*, securities to be registered by the Company and/or securities requested to be included pursuant to the exercise of demand registration rights granted by the Company in such priority and proportions as may be agreed among such parties; *second*, the securities requested to be included in such registration by the Holder pursuant to this Section, the investors who purchased Stock in the offering, and other parties requesting Piggyback Registration rights of the type provided in this Section and having the same priority, *pro rata* based upon the number of securities requested to be included by such parties; *third*, the securities requested to be included in such registration by principals of the Company pursuant to the exercise of Piggyback Registration rights of the type provided in this Section, *pro rata* on the basis of the number of such securities requested to be included by such principal; and *fourth*, other securities for the account of Persons, including the Holder, allocated among such Persons in accordance with the priorities then existing among the Company and such Persons. Any securities excluded pursuant to the provisions of this Section shall be withdrawn from and shall not be included in such Piggyback Registration.

(d) Notwithstanding the foregoing, the Company shall not be obligated to effect any Piggyback Registration pursuant to this Section 9 if, in the good faith determination of the Board of Directors, the filing of such registration statement would be detrimental to the Company or its stockholders due to pending material corporate developments or similar material events that have not yet been publicly disclosed and as to which the Company believes that public disclosure would be prejudicial to the Company and may delay such Piggyback Registration Statement for a period not in excess of ninety (90) days from such determination

Section 10. Registration Procedures.

(a) In the case of a registration to be effected by the Company pursuant to this Warrant Agreement in which the Holder is participating, the Company will keep the Holder advised in writing as to the initiation of such registration and as to the completion thereof. In connection with such offering, the Company shall promptly:

(1) prepare and file with the SEC a registration statement with respect to the Registrable Securities and its best efforts to cause such registration statement to become effective for a period of at least 60 days or until the distribution described in the registration statement relating thereto has been completed, whichever shall first occur;

(2) in connection with the preparation and filing of a registration statement, give the Holder, its underwriters, if any, and its counsel, the opportunity (over a reasonable period of time) to review and comment upon any such registration statement, each prospectus included therein or filed with the SEC, and each amendment thereof or supplement thereto, and give each of them access to financial and other records, pertinent corporate documents and properties of the Company and an opportunity to discuss the business of the Company with its officers, its counsel and the independent public accountants who have certified its financial statements as shall be necessary, in the opinion of the Holder and the underwriters' respective counsel, to conduct a reasonable due diligence investigation within the requirements of the Securities Act;

(3) furnish to the Holder and to the underwriters, if any, of the securities being registered such number of copies of the registration statement, preliminary prospectus, final prospectus and other documents incident thereto as such underwriters and the Holder from time to time may request;

(4) prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement;

(5) register or qualify the Registrable Securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be requested by the Holder for the distribution of the Registrable Securities covered by the registration statement to be sold by the Company;

(6) enter into an underwriting agreement in customary form and substance satisfactory to the Holder and the managing underwriter or underwriters of the public offering of such securities, if the offering is to be underwritten, in whole or in part;

(7) notify the Holder at any time when a prospectus relating thereto covered by such registration statement is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(8) cause all such Registrable Securities to be listed on a national securities exchange or on Nasdaq;

(9) unless any Registrable Securities shall be in book-entry form, cooperate with the Holder to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold pursuant to any registration statement free of any restrictive legend and in such permitted denominations and registered in such names as the Holder may request in connection with the sale of Registrable Securities pursuant to such registration statement; and

(10) otherwise use its commercially reasonable efforts to comply with all applicable rules and regulations of the SEC, and make available to the Holder, as soon as reasonably practicable, an earnings statement covering the period of at least 12 months, but not more than 18 months, beginning with the first full calendar month after the effective date of such registration statement, which earnings statement shall satisfy the provisions of the Securities Act.

(b) Indemnification.

(1) Indemnification by the Company. The Company will indemnify each Holder requesting or joining in a registration and each underwriter of the securities so registered, the officers, directors and partners of each such person and each person who controls any thereof (within the meaning of the Securities Act) against any and all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, or any violation by the Company of any rule or regulation promulgated under the Securities Act applicable to the Company and relating to any action or inaction required of the Company in connection with any such registration, qualification or compliance, and the Company will reimburse each such Holder, underwriter, officer, director, partner and controlling person for any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such claim, loss, damage or

liability arises out of or is based on any untrue statement or omission based upon written information furnished to the Company in an instrument duly executed by such Holder, underwriter, officer, director, partner or controlling person and stated to be specifically for use in such prospectus or registration statement.

(2) Indemnification by Each Holder. Each Holder requesting or joining in a registration, will indemnify, severally and not jointly, each underwriter of the securities so registered, the Company and its officers who sign the registration statement and directors and each person, if any, who controls any thereof (within the meaning of the Securities Act) and their respective successors and assigns against any and all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of any material fact contained in any prospectus, offering circular or other document incident to any registration, qualification or compliance (or in any related registration statement, notification or the like) or any omission (or alleged omission) to state therein any material fact required to be stated therein or necessary to make the statements therein not misleading, and such Holder will reimburse each underwriter, the Company and each other person indemnified pursuant to this paragraph for any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action; provided, however, that this paragraph shall apply only if (and only to the extent that) such statement or omission was made in reliance upon written information furnished to such underwriter or the Company in an instrument duly executed by such Holder and stated to be specifically for use in such prospectus, offering circular or other document (or related registration statement, notification or the like) or any amendment or supplement thereto; and, provided further, that each Holder's liability hereunder with respect to any particular registration shall be limited to an amount equal to the net proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

(3) Indemnification Proceedings. Each party entitled to indemnification pursuant to this Section 10(b) (the "Indemnified Party") shall give notice to the party required to provide indemnification pursuant to this Section 10(b) (the "Indemnifying Party") promptly after such Indemnified Party acquires actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party (at its expense) to assume the defense of any claim or any litigation resulting therefrom; provided that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be reasonably acceptable to the Indemnified Party, and the Indemnified Party may participate in such defense at such party's expense; and provided, further, that the failure by any Indemnified Party to give notice as provided in this paragraph shall not relieve the Indemnifying Party of its obligations under this Section 10(b) except to the extent that the failure results in a failure of actual notice to the Indemnifying Party and such Indemnifying Party is damaged solely as a result of the failure to give notice. No Indemnifying Party, in the defense of any such claim or litigation, shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect to such claim or litigation and no Indemnified Party shall consent to entry of any judgment or settle such claim or litigation without the prior written consent of the Indemnifying Party so long as the Indemnifying Party has acknowledged in writing its obligation to indemnify and is in compliance with all of its obligations hereunder to indemnify the Indemnified Party for all amounts in connection with

such claim or litigation and which consent shall not be unreasonably withheld. If the defendants in any action subject to this Section 10(b) include both the Indemnified Party and the Indemnifying Party and the Indemnified Party shall have reasonably concluded that there may be reasonable defenses available to it which are different from or additional to those available to the Indemnifying Party or if the interests of the Indemnified Party reasonably may be deemed to conflict with the interests of the Indemnifying Party, the Indemnified Party shall have the right to select a separate counsel and to assume such legal defenses and otherwise to participate in the defense of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the Indemnifying Party as incurred.

(c) Contribution in Lieu of Indemnification. If the indemnification provided for in Section 10(b) hereof is unavailable to a party that would have been an Indemnified Party under any such section in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each party that would have been an Indemnifying Party thereunder shall, in lieu of indemnifying such Indemnified Party, contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party on the one hand and such Indemnified Party on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof). The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Indemnifying Party or such Indemnified Party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and each Holder of Registrable Securities agree that it would not be just and equitable if contribution pursuant to this Section 10(c) were determined by pro-rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 10(c). The amount paid or payable by an Indemnified Party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this Section 10(c) shall include any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending any such action or claim. Notwithstanding any provision of this Section 10(c) to the contrary, (a) no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation and (b) each Holder's liability hereunder with respect to any particular registration shall be limited to an amount equal to the net proceeds received by such Holder from the Registrable Securities sold by such Holder in such registration.

Section 11. Effect of Registration Rights of Heirs, Assigns, Beneficiaries, Successors and Transferees. The heirs, assigns, beneficiaries and successor of the Holder shall be entitled to all of the registration rights set forth in Sections 8 through 10 of this Warrant Agreement; *provided*, *however*, that such Person or Persons will be able to exercise such rights of the Holder only if it or they have at least 5% of the equity interest in the Company.

Section 12. Transfers and Exchanges. Subject to the terms of Section 15 hereof, the Company shall from time to time register the transfer of the Warrant in a Warrant register to

be maintained by the Company upon surrender thereof accompanied by a written instrument or instruments of transfer in the form of assignment attached hereto or as otherwise may be satisfactory to the Company, duly executed by the Holder thereof or by the duly appointed legal representative thereof or by a duly authorized attorney. Upon any such transfer, the surrendered Warrant shall be canceled and disposed of by the Company and a new Warrant shall be issued to the transferee(s). The Holder agrees that prior to any proposed transfer of the Warrant or of the Warrant Shares, if such transfer is not made pursuant to an effective registration statement under the Securities Act and any applicable state securities laws, the Holder shall deliver to the Company:

(a) an investment covenant substantially similar to Section 7(a) and otherwise reasonably satisfactory to the Company signed by the proposed transferee;

(b) an agreement by such transferee to the impression of the restrictive investment legend set forth below on the Warrant or the Warrant Shares;

(c) an agreement by such transferee that the Company may place a notation in the stock books of the Company or a "stop transfer order" with any transfer agent or registrar with respect to the Warrant Shares;

(d) an agreement by such transferee to be bound by the provisions of this Section 12 relating to the transfer of such Warrant or Warrant Shares; and

(e) an opinion of counsel, reasonably satisfactory in form and substance to the Company, that the transfer is exempt from registration requirements under the Securities Act and any applicable state securities laws.

The Holder agrees that each Warrant and each certificate representing Warrant Shares will bear the following legend:

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Section 13. Notices. All demands, notices and communications relating to this Warrant Agreement or any Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows:

If to the Company:

Amedica Corporation
2116 South Lakeline Drive
Salt Lake City, UT 84109
Attention: Ashok Khandkar,
Chief Executive Officer
Telephone: (801) 535-4355
Telecopy: (801) 584-2533

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

Creation Capital LLC
100 Congress Avenue, Suite 2000
Austin, TX 78701
Attention: Gregg R. Honigblum,
Chief Executive Officer
Telephone: (512) 370-4900
Telecopy: (512) 473-4903

with a copy to:

Winston & Strawn LLP
200 Park Avenue
New York, NY 10166
Attention: Nick Krylov, Esq.
Telephone: (212) 294-6617
Telecopy: (212) 294-4700

Any such demand, notice or communication hereunder shall be deemed to have been duly given when received by the other party or parties at the address shown above or on the next succeeding business day if the date of receipt is not a business day, or such other address as may hereafter be furnished to the other party or parties by like notice and shall be deemed to have been received on the date delivered to or received at the premises of the addresses.

Section 14. Counterparts. For the purpose of facilitating the execution of this Warrant Agreement and for other purposes, this Warrant Agreement may be executed

simultaneously in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute and be one and the same instrument; and such counterparts may be delivered via facsimile to the numbers designated in or pursuant to Section 13.

Section 15. *Assignability*. Subject to the provisions set forth in Section 12, the Holder may assign the rights and interests under this Warrant Agreement to any person without the Company's consent; provided, however, that in the event such assignee (other than an assignee which is a Holder Affiliate (as such term is defined below)) is reasonably deemed by the Company to compete with the Company in its traditional business activities (a "competitor"), the Company shall not be required to furnish to such assignee information and reports relating to the Company pursuant to Section 6(f) of this Agreement and, upon notice given by the Company to Holder that such assignee is deemed a "competitor," Holder shall not furnish to such assignee any information or reports relating to the Company, without the Company's prior written consent; and provided, further, however, that no such assignment shall be made to the extent such transfer would subject the Company to the reporting requirements of the Securities Exchange Act of 1934, as amended. The Holder shall promptly cause written notice of any such transfer to be sent to the Company in accordance with Section 13 hereof at least fourteen (14) days prior to such transfer. Notwithstanding the foregoing or any other provision to the contrary, the Warrant and the Warrant Shares will be "restricted securities" as defined in Rule 144 under the Securities Act, and thus will not be transferable except in compliance with applicable federal and state securities laws and regulations. "Holder Affiliate" shall mean any person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such Holder.

Section 16. *Governing Law; Jurisdiction; Waiver of Jury Trial*.

(a) *Governing Law*. This Warrant Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

(b) *Jurisdiction*. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any New York State or Federal court sitting in New York City in any action or proceeding arising out of or relating to this Warrant Agreement or the Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 13. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Jury Trial*. **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT AGREEMENT OR ANY WARRANT ISSUED HEREUNDER.**

Section 17. Amendments. This Warrant Agreement may be amended from time to time by written instrument signed by the Company and the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant and no waiver of any of the terms hereof shall be effective unless it is in writing and signed by the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant or the Company, as the case may be. Any amendment or waiver pursuant to this Section 17 shall be binding on all Holders of the Warrant Shares and may be given retroactive, prospective or concurrent effect, depending upon the language in such amendment or waiver.

Section 18. No Waiver. No failure on the part of the Holder or the Company to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Section 19. Termination. This Warrant Agreement shall terminate on the Warrant Termination Date. Notwithstanding the foregoing, this Warrant Agreement will terminate on any earlier date if the Warrant has been exercised in full.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have caused this Warrant Agreement to be duly executed by their respective officers on the day and year first above written.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Name: Ashok Khandkar
Title: Chief Executive Officer

CREATION CAPITAL LLC

By: /s/ Gregg R. Honigblum
Name: Gregg R. Honigblum
Title: Chief Executive Officer

Exhibit A

Form of Warrant

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Exercisable on or before
the Warrant Termination Date
(as defined below)

WARRANT TO PURCHASE SERIES C CONVERTIBLE PREFERRED STOCK

To Subscribe for and Purchase Series C Convertible Preferred Stock

of

AMEDICA CORPORATION

WARRANT NO.

This certifies that, for value received, Creation Capital LLC, a Delaware limited liability company ("Creation Capital"), or its assigns (Creation Capital and/or its assigns are collectively referred to herein as the "Holder"), is entitled to subscribe for and purchase from Amedica Corporation, a Delaware corporation (the "Company"), at any time commencing on the first anniversary of the date hereof and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date hereof (the "Warrant Termination Date"), shares (the "Warrant Shares") of the Company's Series C Convertible Preferred Stock, par value $.01 per share (the "Series C Preferred Stock"), subject to adjustment as provided in that certain Warrant Agreement, dated as of February , 2006, by and between the Company and Creation Capital (the "Warrant Agreement"), at an exercise price of $2.20 per share, as such exercise price may be adjusted from time to time under the Warrant Agreement. No Warrant may be exercised after the Warrant Termination Date.

In the event of (a) the closing of the issuance and sale of shares of common stock, $.01 par value per share (the “Common Stock”), of the Company in the Company’s first underwritten public offering (“IPO”) pursuant to an effective registration statement under the Securities Act of 1933, as amended (the “Securities Act”) or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A “Change of Control” shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company’s stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

This Series C Preferred Stock Purchase Warrant and all Series C Preferred Stock Purchase Warrants issued in substitution or exchange therefor are herein individually called a “Warrant” and collectively called “Warrants.”

This Warrant is issued pursuant to and, subject to the terms and conditions of, the Warrant Agreement, which Warrant Agreement is incorporated by reference in and made a part of this instrument. Capitalized terms not otherwise defined herein shall have the meanings given them in the Warrant Agreement. Any conflict between the terms of this Warrant and the Warrant Agreement shall be resolved in favor of the terms of the Warrant Agreement.

This Warrant is further subject to the following provisions, terms and conditions:

1. (a) In order to exercise this Warrant, in whole or in part, the Holder shall deliver to the Company, at the office the Company designated for such purpose in Section 13 of the Warrant Agreement, (i) the form of election to purchase set forth herein properly completed and signed, (ii) payment of the Warrant Price pursuant to Section 1(b), and (iii) this Warrant. Upon receipt of the items referred to in clauses (i), (ii) and (iii) above, the Company shall, as promptly as practicable, and in any event within ten (10) days thereafter, execute or cause to be executed and deliver or cause to be delivered to the Holder a certificate or certificates, in such name or names as the Holder may designate, representing the aggregate number of full shares of Series C Preferred Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided in Section 4. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Series C Preferred Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Payment to the Company of the purchase price for the Warrant Shares so purchased (the “ Warrant Price”) may be made, at the option of the Holder, by payment of the Warrant Price in cash or by wire transfer or cashier’s check drawn on a United States bank.

(c) Net Exercise. In the event of any exercise of this Warrant in connection with a mandatory conversion of the Series C Preferred Stock into shares of the Company’s

Common Stock pursuant to Article IV, Section C(2)(c) of the Certificate of Incorporation, in lieu of exercising this Warrant pursuant to Section 1(b), the Holder may elect to receive, without the payment by the Holder of any additional consideration, shares of Series C Preferred Stock equal to the value of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to the holder hereof a number of shares of Series C Preferred Stock computed using the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where: X = The number of shares of Series C Preferred Stock to be issued to the Holder pursuant to this net exercise;

Y = The number of shares of Series C Preferred Stock in respect of which the net issue election is made;

A = The fair market value of one share of the Series C Preferred Stock at the time the net issue election is made;

B = The Exercise Price (as adjusted to the date of the net issuance).

For purposes of this Section 1(c), the fair market value of one share of Series C Preferred Stock (or Common Stock, to the extent all such Series C Preferred Stock has been converted into the Company's Common Stock) as of a particular date shall be determined as follows: (i) if traded on a securities exchange or through the Nasdaq National Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; (ii) if traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; and (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Company; provided, however, that, if the Warrant is being exercised upon the closing of the IPO, the value will be the initial "Price to Public" of one share of such Series C Preferred Stock (or Common Stock issuable upon conversion of such Series C Preferred Stock) specified in the final prospectus with respect to such offering (net of applicable underwriting commissions).

2. Notwithstanding the foregoing, however, the Company shall not be required to deliver any certificate for shares of stock upon exercise of this Warrant except in accordance with the provisions, and subject to the limitations of, Section 4 hereof and the restrictive legend on the first page hereof.

3. The Company covenants and agrees that the Warrant Shares will, upon issuance, delivery and receipt of consideration therefor, be duly authorized and issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized,

and reserved for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of Warrant Shares to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that the Warrant Shares may be so issued without violation of any applicable law or regulation or of any pre-emptive or contractual rights of any person or entity.

4. No fractional shares of Series C Preferred Stock shall be issued upon the exercise of this Warrant, but, instead of any fraction of a share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Series C Preferred Stock as of the close of business on the date of the notice required by Section 1 above.

5. This Warrant, unless and until exercised, shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

6. Subject to the provisions of Section 12 and Section 15 of the Warrant Agreement, this Warrant and all rights hereunder are assignable.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer and this Warrant to be dated as of , 2006.

AMEDICA CORPORATION

By: ______________________________

Its: ______________________________

Form of Election to Purchase

(To Be Executed Upon Exercise Of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant, to receive shares of Series C Preferred Stock and herewith tenders payment for such shares to the order of CREATION CAPITAL LLC in the amount of $2.20 per share, as adjusted pursuant to the terms of that certain Warrant Agreement, in accordance with the terms hereof and the terms of the Warrant Agreement. The undersigned requests that a certificate for such shares be registered in the name of whose address is and that such shares be delivered to whose address is . If said number of shares is less than all of the shares of Series C Preferred Stock purchasable hereunder, the undersigned requests that a new Warrant representing the remaining balance of such shares be registered in the name of whose address is and that such shares be delivered to whose address is .

Signature: ____________________________

Date: ____________________________

Form of Assignment

(To be executed upon assignment of Warrant)

FOR VALUE RECEIVED, , hereby sells, assigns and transfers unto that certain warrant (the "Warrant") dated as of , 2006, to purchase shares of Series C Preferred Stock of Amedica Corporation (the "Company"), together with all right, title and interest therein, and does hereby irrevocably constitute and appoint attorney, to transfer the Warrant on the books of the Company, with full power of substitution in the premises.

Date: ____________________________________

[ ]

By: ____________________________________
Name:
Title:

NOTE: The above signature should correspond exactly with the name on the face of this Warrant.

Exhibit 4.6

SERIES D
WARRANT AGREEMENT

THIS SERIES D WARRANT AGREEMENT (this "***Warrant Agreement***") dated of April 27, 2007, is made by and between CREATION CAPITAL LLC, a Delaware limited liability company ("***Creation Capital***"), and AMEDICA CORPORATION, a Delaware corporation (the "***Company***").

WHEREAS, pursuant to the letter dated March 26, 2007 (the "***Engagement Letter***"), Creation Capital was engaged by the Company as the exclusive placement agent to the Company in the United States in connection with the private placement of up to $13,500,000, subject to an over-allotment of up to $1,500,000, of shares of the Company's Series D Convertible Preferred Stock (the "***Stock***"); and

WHEREAS, the Engagement Letter provides that upon each closing of the sale of Stock, Creation Capital shall receive warrants to purchase a number of shares of Stock equal to six percent (6%) of the total number of shares of Stock sold at such closing; and

WHEREAS, the Engagement Letter further provides that the warrants shall be issued pursuant to a definitive warrant agreement mutually agreed to by the Company and Creation Capital.

NOW, THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purposes of defining terms and provisions of the Warrants and the certificates representing the Warrants and the respective rights and obligations thereunder of the Company, Creation Capital and the holders of certificates representing the Warrants, the Company and Creation Capital hereby agree as follows:

Section 1. Form of Warrant. The Company shall grant to Creation Capital (Creation Capital and/or its assigns are collectively referred to herein as the "***Holder***") warrant(s) (the "***Warrant***"), in the form of Exhibit A hereto, to purchase shares of Stock at a purchase price of $3.30 per share (the "***Exercise Price***") all as more fully set forth herein. The Warrant shall be executed on behalf of the Company by its Chief Executive Officer or any other authorized officer of the Company, and dated as of the date of issuance of the Warrant.

Section 2. Exercise Period of Warrant. The Warrant shall be exercisable at any time commencing on the first anniversary of the date of issuance of the Warrant and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date of issuance of the Warrant (the "***Warrant Termination Date***"); provided, however, that in the event of (a) the closing of the issuance and sale of shares of the common stock, $0.01 par value per share (the "***Common Stock***"), of the Company in the Company's first underwritten public offering ("***IPO***") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***") or (b) a Change of Control (as defined below), the Warrant shall, on the date of such event, become immediately exercisable.

A "***Change of Control"*** shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

Section 3. *Term of Warrant Agreement*. Except as otherwise expressly provided herein, this Warrant Agreement shall become void and all rights hereunder and all rights in respect thereof under the Warrant shall cease as of the Warrant Termination Date except to the extent that the Warrant is exercised prior to such date.

Section 4. *Number of Shares*. The Warrant shall be exercisable for up to the number of shares of Stock as shall be indicated on the Warrant, subject to adjustment as provided herein (the "***Warrant Shares***").

Section 5. *Adjustment Provisions*. The Exercise Price and the number of shares of Stock underlying the Warrant shall be subject to adjustment from time to time as hereinafter set forth:

(a) *Stock Dividends – Stock Splits*. If after the date hereof, the number of outstanding shares of Stock is increased by a stock dividend payable in shares of Stock or by a sub-division or a stock split of shares of Stock or other similar event as described in the Certificate of Designation, Preferences and Rights of the Stock (the "***Certificate of Designation***"), then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be increased in proportion to such increase in outstanding shares.

(b) *Aggregation of Shares*. If after the date hereof, the number of outstanding shares of Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Stock or other similar event, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be decreased in proportion to such decrease in outstanding shares.

(c) *Adjustments in Exercise Price*. Whenever the number of the shares of Stock issuable upon the exercise of the Warrant is adjusted, as provided in Sections 5(a) and (b), the Exercise Price shall be adjusted (to the nearest cent) by multiplying such Exercise Price immediately prior to such adjustment by a fraction (x) the numerator of which shall be the number of the shares of Stock purchasable upon the exercise of the Warrant immediately prior to such adjustment and (y) the denominator of which shall be the number of the shares of Stock so purchasable immediately thereafter.

(d) *When De Minimis Adjustment May Be Deferred.* No adjustment in the Exercise Price need be made unless the adjustment would require an increase or decrease of at least 1% in the Exercise Price. Any adjustments that are not made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 5 shall be made to the nearest 1/100th of a share.

(e) *Notice*. Whenever there shall be an adjustment as provided in this Section 5, the Company shall promptly cause written notice thereof to be sent to the Holder in accordance with Section 11 hereof, which notice shall be accompanied by an officer's certificate setting forth the number of Warrant Shares purchasable upon the exercise of this Warrant and the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment and the computation thereof. Additionally, in case at any time the Company shall propose:

(i) to pay any dividend or make any distribution on shares of Stock in shares of Stock or make any other distribution to all holders of Stock; or

(ii) to issue any rights, warrants or other securities to all holders of Stock entitling them to purchase any additional shares of Stock or any other rights, warrants or other securities; or

(iii) to effect any reclassification or change of outstanding shares of Stock, or any consolidation, merger or sale; or

(iv) to effect any liquidation, dissolution or winding-up of the Company;

then, and in any one or more of such cases, the Company shall give written notice thereof to the Holder in accordance with Section 11 hereof, which notice shall be sent at least fifteen (15) days prior to (i) the date as of which the holders of record of shares of Stock to be entitled to receive any such dividend, distribution, rights, warrants, other securities are to be determined or (ii) the date on which any such reclassification, change of outstanding shares of Stock, consolidation, merger, sale, liquidation, dissolution or winding-up is expected to become effective, and the date as of which it is expected that holders of record of shares of Stock shall be entitled to exchange their shares for securities or other property, if any, deliverable upon such reclassification, change of outstanding shares, consolidation, merger, sale, liquidation, dissolution or winding-up.

Section 6. Representations, Warranties and Covenants of the Company. The Company hereby represents, warrants and covenants to Holder as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing as a foreign corporation in each jurisdiction in which the nature of its business makes such qualification necessary and where the failure to so qualify would have a material adverse effect on its business or operations. The Company has all requisite corporate power and authority to carry out its business as presently conducted and as proposed to be conducted and to enter into and discharge its obligations under this Warrant Agreement and the Warrant.

(b) The execution and delivery of this Warrant Agreement and the Warrant by the Company and its performance and compliance with the terms of this Warrant Agreement and the Warrant have been duly authorized by all necessary corporate action on the part of the Company.

(c) The consummation of the transactions contemplated by this Warrant Agreement and the Warrant will not (i) conflict with, result in any breach of any of the terms and provisions of, or constitute (with or without notice or lapse of time or both) a default under, the

certificate of incorporation or bylaws of the Company, or any material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument to which the Company is a party or by which it or any of its properties is bound, (ii) result in the creation or imposition of any lien, adverse claim or other encumbrance upon any of the properties of the Company pursuant to the terms of any such material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument, or (iii) violate any law or order, rule or regulation applicable to the Company of any court or of any federal or state regulatory body, administrative agency, or other governmental instrumentality having jurisdiction over the Company or any of its properties.

(d) This Warrant Agreement and the Warrant each constitutes a legal, valid and binding obligation of the Company and each is enforceable against the Company in accordance with the terms hereof and thereof, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and by general principles of equity (whether considered in a proceeding or action in equity or at law).

(e) The Company shall at all times keep a sufficient number of authorized but unissued shares of Stock reserved for issuance upon the exercise of the Warrant. The Warrant Shares, when issued, delivered and paid for in accordance with the terms of this Warrant Agreement and the Warrant, will be duly and validly issued, fully paid and non-assessable and will not have been issued in violation of the pre-emptive or contractual rights of any person or entity.

(f) The Company shall deliver to each Holder of ten percent (10%) or more of the aggregate Warrant Shares such information and reports relating to the Company as the Company is required to provide to other holders of the Stock. The rights of such Holders under this Section 6(f) shall terminate upon the closing of the IPO.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of the Warrant or any certificate representing Warrant Shares, and, in the case of any such loss, theft or destruction, upon delivery of indemnity (which may include a bond) reasonably satisfactory to the Company, or, in the case of any such mutilation, upon surrender and cancellation of the Warrant or any certificate representing Warrant Shares, as the case may be, the Company will issue a new Warrant or certificates representing Warrant Shares, as the case may be, of like tenor representing an equivalent interest or right, in lieu of such lost, stolen, destroyed or mutilated Warrant or certificates representing Warrant Shares, as the case may be. The applicant for such replacement Warrant shall comply with such other reasonable requests as the Company may reasonably prescribe.

Section 7. Representations, Warranties and Covenants of Holder. Holder hereby represents, warrants and covenants to the Company as follows:

(a) Holder is acquiring the Warrant, and upon exercise of the Warrant will acquire the Warrant Shares, for its own account with no intention of distributing or reselling the Warrant or Warrant Shares in any transaction that would be a violation of the securities laws of the United States or any state, without prejudice to the Holder's rights at all times to sell or otherwise dispose of all or part of such Warrant under a registration under the Securities Act or

an exemption available thereto. Holder is aware that neither the Warrant nor the Warrant Shares are registered under the Securities Act or any state or other jurisdiction's securities laws, and that Holder must hold the Warrant and the Warrant Shares indefinitely unless subsequently registered or an exemption from registration is available. Holder understands and agrees that the Warrant will bear the restrictive legend set forth on the Warrant and that the Warrant Shares will bear the legend set forth in Section 10 of this Warrant Agreement. Holder represents and warrants that it is an "accredited investor" as that term is defined in Rule 501 of Regulation D promulgated under the Securities Act.

Section 8. Registration Rights. The Holder shall be entitled to become a party to that certain Second Amended and Restated Registration Rights Agreement dated as of April 17, 2007, among the Company, prior holders of certain securities of the Company, and purchasers of shares of Stock (the "***Registration Rights Agreement***"). Upon executing and delivering to the Company a counterpart of the Registration Rights Agreement, and subject to the terms and conditions set forth therein and Section 9 hereof, the Holder have the registration rights set forth in the Registration Rights Agreement with respect to the shares of Common Stock issuable upon conversion of the Warrant Shares to the extent that such shares are Registrable Securities (as such term is defined in the Registration Rights Agreement).

Section 9. Effect of Registration Rights of Heirs, Assigns, Beneficiaries, Successors and Transferees. The heirs, assigns, beneficiaries and successor of the Holder shall be entitled to the registration rights set forth in Registration Rights Agreement, as amended; *provided, however,* that such Person or Persons will be able to exercise such rights of the Holder only if it or they have at least 5% of the equity interest in the Company.

Section 10. Transfers and Exchanges. Subject to the terms of Section 13 hereof, the Company shall from time to time register the transfer of the Warrant in a Warrant register to be maintained by the Company upon surrender thereof accompanied by a written instrument or instruments of transfer in the form of assignment attached hereto or as otherwise may be satisfactory to the Company, duly executed by the Holder thereof or by the duly appointed legal representative thereof or by a duly authorized attorney. Upon any such transfer, the surrendered Warrant shall be canceled and disposed of by the Company and a new Warrant shall be issued to the transferee(s). The Holder agrees that prior to any proposed transfer of the Warrant or of the Warrant Shares, if such transfer is not made pursuant to an effective registration statement under the Securities Act and any applicable state securities laws, the Holder shall deliver to the Company:

(a) an investment covenant substantially similar to Section 7(a) hereof and otherwise reasonably satisfactory to the Company signed by the proposed transferee;

(b) an agreement by such transferee to the impression of the restrictive investment legend set forth below on the Warrant or the Warrant Shares;

(c) an agreement by such transferee that the Company may place a notation in the stock books of the Company or a "stop transfer order" with any transfer agent or registrar with respect to the Warrant Shares;

(d) an agreement by such transferee to be bound by the provisions of this Section 10 relating to the transfer of such Warrant or Warrant Shares; and

(e) an opinion of counsel, reasonably satisfactory in form and substance to the Company, that the transfer is exempt from registration requirements under the Securities Act and any applicable state securities laws.

The Holder agrees that each Warrant and each certificate representing Warrant Shares will bear the following legend:

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Section 11. Notices. All demands, notices and communications relating to this Warrant Agreement or any Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows:

If to the Company:

Amedica Corporation
615 Arapeen Drive, Suite 302
Salt Lake City, UT 84108
Attention: Ashok Khandkar,
Chief Executive Officer
Telephone: (801) 535-4355
Telecopy: (801) 584-2533

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

Creation Capital LLC
100 Congress Avenue, Suite 2000
Austin, TX 78701
Attention: Gregg R. Honigblum,
Chief Executive Officer
Telephone: (512) 370-4900
Telecopy: (512) 473-4903

with a copy to:

Winston & Strawn LLP
200 Park Avenue
New York, NY 10166
Attention: Nick Krylov, Esq.
Telephone: (212) 294-6617
Telecopy: (212) 294-4700

Any such demand, notice or communication hereunder shall be deemed to have been duly given when received by the other party or parties at the address shown above or on the next succeeding business day if the date of receipt is not a business day, or such other address as may hereafter be furnished to the other party or parties by like notice and shall be deemed to have been received on the date delivered to or received at the premises of the addresses.

Section 12. Counterparts. For the purpose of facilitating the execution of this Warrant Agreement and for other purposes, this Warrant Agreement may be executed simultaneously in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute and be one and the same instrument; and such counterparts may be delivered via facsimile to the numbers designated in or pursuant to Section 11 hereof.

Section 13. Assignability. Subject to the provisions set forth in Section 10, the Holder may assign the rights and interests under this Warrant Agreement to any person without the Company's consent; provided, however, that in the event such assignee (other than an assignee which is a Holder Affiliate (as such term is defined below)) is reasonably deemed by the Company to compete with the Company in its traditional business activities (a "***competitor***"), the Company shall not be required to furnish to such assignee information and reports relating to the Company pursuant to Section 6(f) of this Warrant Agreement and, upon notice given by the Company to Holder that such assignee is deemed a "competitor," Holder shall not furnish to such assignee any information or reports relating to the Company, without the Company's prior written consent; and provided, further, however, that no such assignment shall be made to the extent such transfer would subject the Company to the reporting requirements of the Securities Exchange Act of 1934, as amended. The Holder shall promptly cause written notice of any such transfer to be sent to the Company in accordance with Section 10 hereof at least fourteen (14) days prior to such transfer. Notwithstanding the foregoing or any other provision to the contrary, the Warrant and the Warrant Shares will be "restricted securities" as defined in Rule 144 under the Securities Act, and thus will not be transferable except in compliance with applicable federal and state securities laws and regulations. "***Holder Affiliate***" shall mean any person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such Holder.

Section 14. Governing Law; Jurisdiction; Waiver of Jury Trial.

(a) *Governing Law*. This Warrant Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

(b) *Jurisdiction*. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any New York State or Federal court sitting in New York City in any action or proceeding arising out of or relating to this Warrant Agreement or the Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 11 hereof. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Jury Trial*. **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT AGREEMENT OR ANY WARRANT ISSUED HEREUNDER.**

Section 15. Amendments. This Warrant Agreement may be amended from time to time by written instrument signed by the Company and the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant and no waiver of any of the terms hereof shall be effective unless it is in writing and signed by the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant or the Company, as the case may be. Any amendment or waiver pursuant to this Section 15 shall be binding on all Holders of the Warrant Shares and may be given retroactive, prospective or concurrent effect, depending upon the language in such amendment or waiver.

Section 16. No Waiver. No failure on the part of the Holder or the Company to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Section 17. Termination. This Warrant Agreement shall terminate on the Warrant Termination Date. Notwithstanding the foregoing, this Warrant Agreement will terminate on any earlier date if the Warrant has been exercised in full.

IN WITNESS WHEREOF, the parties hereto have caused this Series D Warrant Agreement to be duly executed by their respective officers on the day and year first above written.

AMEDICA CORPORATION

By: /s/ Ashok Khandkar
Name: Ashok Khandkar
Title: Chief Executive Officer

CREATION CAPITAL LLC

By: /s/ Gregg R. Honigblum
Name: Gregg R. Honigblum
Title: Chief Executive Officer

Exhibit A

Form of Warrant

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Exercisable on or before
the Warrant Termination Date
(as defined below)

WARRANT TO PURCHASE SERIES D CONVERTIBLE PREFERRED STOCK

To Subscribe for and Purchase Series D Convertible Preferred Stock

of

AMEDICA CORPORATION

WARRANT NO. __________

This certifies that, for value received, Creation Capital LLC, a Delaware limited liability company ("***Creation Capital***"), or its assigns Creation Capital and/or its assigns are collectively referred to herein as the "***Holder***"), is entitled to subscribe for and purchase from Amedica Corporation, a Delaware corporation (the "***Company***"), at any time commencing on the first anniversary of the date hereof and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date hereof (the "***Warrant Termination Date***"), __________ shares (the "***Warrant Shares***") of the Company's Series D Convertible Preferred Stock, par value $0.01 per share (the "***Series D Preferred Stock***"), subject to adjustment as provided in that certain Series D Warrant Agreement, dated as of April 27, 2007, by and between the Company and Creation Capital (the "***Warrant Agreement***"), at an exercise price of $3.30 per share, as such exercise price may be adjusted from time to time under the Warrant Agreement. No Warrant may be exercised after the Warrant Termination Date.

In the event of (a) the closing of the issuance and sale of shares of common stock, $0.01 par value per share (the "***Common Stock***"), of the Company in the Company's first underwritten public offering ("***IPO***") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***"), or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "***Change of Control***" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

This Series D Preferred Stock Purchase Warrant and all Series D Preferred Stock Purchase Warrants issued in substitution or exchange therefor are herein individually called a "***Warrant***" and collectively called "***Warrants***."

This Warrant is issued pursuant to and, subject to the terms and conditions of, the Warrant Agreement, which Warrant Agreement is incorporated by reference in and made a part of this instrument. Capitalized terms not otherwise defined herein shall have the meanings given them in the Warrant Agreement. Any conflict between the terms of this Warrant and the Warrant Agreement shall be resolved in favor of the terms of the Warrant Agreement.

This Warrant is further subject to the following provisions, terms and conditions:

1. (a) In order to exercise this Warrant, in whole or in part, the Holder shall deliver to the Company, at the office the Company designated for such purpose in Section 11 of the Warrant Agreement, (i) the form of election to purchase set forth herein properly completed and signed, (ii) payment of the Warrant Price pursuant to Section 1(b), and (iii) this Warrant. Upon receipt of the items referred to in clauses (i), (ii) and (iii) above, the Company shall, as promptly as practicable, and in any event within ten (10) days thereafter, execute or cause to be executed and deliver or cause to be delivered to the Holder a certificate or certificates, in such name or names as the Holder may designate, representing the aggregate number of full shares of Series D Preferred Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided in Section 4 hereof. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Series D Preferred Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Payment to the Company of the purchase price for the Warrant Shares so purchased (the " ***Warrant Price***") may be made, at the option of the Holder, by payment of the Warrant Price in cash or by wire transfer or cashier's check drawn on a United States bank.

(c) Net Exercise. In the event of any exercise of this Warrant in connection with an automatic conversion of the Series D Preferred Stock into shares of the Company's

Common Stock pursuant to Section 2(c) of the Certificate of Designation, in lieu of exercising this Warrant pursuant to Section 1(b), the Holder may elect to receive, without the payment by the Holder of any additional consideration, shares of Series D Preferred Stock equal to the value of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to the holder hereof a number of shares of Series D Preferred Stock computed using the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where: X = The number of shares of Series D Preferred Stock to be issued to the Holder pursuant to this net exercise;

Y = The number of shares of Series D Preferred Stock in respect of which the net issue election is made;

A = The fair market value of one share of the Series D Preferred Stock at the time the net issue election is made;

B = The Exercise Price (as adjusted to the date of the net issuance).

For purposes of this Section 1(c), the fair market value of one share of Series D Preferred Stock (or Common Stock, to the extent all such Series D Preferred Stock has been converted into the Company's Common Stock) as of a particular date shall be determined as follows: (i) if traded on a securities exchange or through the Nasdaq Global Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; (ii) if traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; and (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Company; provided, however, that, if the Warrant is being exercised upon the closing of the IPO, the value will be the initial "Price to Public" of one share of such Series D Preferred Stock (or Common Stock issuable upon conversion of such Series D Preferred Stock) specified in the final prospectus with respect to such offering (net of applicable underwriting commissions).

2. Notwithstanding the foregoing, however, the Company shall not be required to deliver any certificate for shares of stock upon exercise of this Warrant except in accordance with the provisions, and subject to the limitations of, Section 4 hereof and the restrictive legend on the first page hereof.

3. The Company covenants and agrees that the Warrant Shares will, upon issuance, delivery and receipt of consideration therefor, be duly authorized and issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized,

and reserved for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of Warrant Shares to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that the Warrant Shares may be so issued without violation of any applicable law or regulation or of any pre-emptive or contractual rights of any person or entity.

4. No fractional shares of Series D Preferred Stock shall be issued upon the exercise of this Warrant, but, instead of any fraction of a share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Series D Preferred Stock as of the close of business on the date of the notice required by Section 1 above.

5. This Warrant, unless and until exercised, shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

6. Subject to the provisions of Section 10 and Section 13 of the Warrant Agreement, this Warrant and all rights hereunder are assignable.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer and this Warrant to be dated as of , 20 .

AMEDICA CORPORATION

By: ______________________

Its: ______________________

Form of Election to Purchase

(To Be Executed Upon Exercise Of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant, to receive __________ shares of Series D Preferred Stock and herewith tenders payment for such shares to the order of CREATION CAPITAL LLC in the amount of $3.30 per share, as adjusted pursuant to the terms of that certain Series D Warrant Agreement, in accordance with the terms hereof and the terms of the Series D Warrant Agreement. The undersigned requests that a certificate for such shares be registered in the name of ______________ whose address is ______________ and that such shares be delivered to ______________ whose address is ______________. If said number of shares is less than all of the shares of Series D Preferred Stock purchasable hereunder, the undersigned requests that a new Warrant representing the remaining balance of such shares be registered in the name of ______________ whose address is __________ and that such shares be delivered to __________ whose address is ______________.

Signature: ________________________________

Date: ________________________________

Form of Assignment

(To be executed upon assignment of Warrant)

FOR VALUE RECEIVED, ______________, hereby sells, assigns and transfers unto ______________ that certain warrant (the “Warrant”) dated as of ______, 20__, to purchase shares of Series D Preferred Stock of Amedica Corporation (the “Company”), together with all right, title and interest therein, and does hereby irrevocably constitute and appoint ______________ attorney, to transfer the Warrant on the books of the Company, with full power of substitution in the premises.

Date: ______________________________________

[   ]

By: ______________________________________
Name:
Title:

NOTE: The above signature should correspond exactly with the name on the face of this Warrant.

Exhibit 4.7

COMMON STOCK
WARRANT AGREEMENT

THIS COMMON STOCK WARRANT AGREEMENT (this "***Warrant Agreement***") dated of April 30, 2008, is made by and between CREATION CAPITAL LLC, a Delaware limited liability company ("***Creation Capital***"), and AMEDICA CORPORATION, a Delaware corporation (the "***Company***").

WHEREAS, pursuant to the letter dated November 5, 2007 (the "***Engagement Letter***"), Creation Capital was engaged by the Company as the exclusive placement agent to the Company in the United States in connection with the private placement of up to $50,000,000, subject to an over-allotment of up to $10,000,000, of shares of the Company's Series D Convertible Preferred Stock (the "***Series D Preferred Stock***"); and

WHEREAS, the Engagement Letter provides that upon each closing of the sale of Stock, Creation Capital shall receive warrants to purchase a number of shares of the Company's Common Stock, par value $0.01 per share (the "***Common Stock***"), equal to six percent (6%) of the total number of shares of Series D Preferred Stock sold at such closing, such total number of shares subject to certain exceptions specified in the Engagement Letter; and

WHEREAS, the Engagement Letter further provides that the warrants shall be issued pursuant to a definitive Warrant Agreement mutually agreed to by the Company and Creation Capital.

NOW, THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purposes of defining terms and provisions of the warrants and the certificates representing the warrants and the respective rights and obligations thereunder of the Company, Creation Capital and the holders of certificates representing the warrants, the Company and Creation Capital hereby agree as follows:

Section 1. Form of Warrant. The Company shall grant to Creation Capital (Creation Capital and/or its assigns are collectively referred to herein as the "***Holder***") warrant(s) (the "***Warrant***"), in the form of Exhibit A hereto, to purchase shares of Common Stock at a purchase price of $3.30 per share (the "***Exercise Price***") all as more fully set forth herein. The Warrant shall be executed on behalf of the Company by its Chief Executive Officer or any other authorized officer of the Company, and dated as of the date of issuance of the Warrant.

Section 2. Exercise Period of Warrant. The Warrant shall be exercisable at any time commencing on the first anniversary of the date of issuance of the Warrant and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date of issuance of the Warrant (the "***Warrant Termination Date***"); *provided, however*, that in the event of (a) the closing of the issuance and sale of shares of the Common Stock of the Company in the Company's first underwritten public offering ("***IPO***") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***") or (b) a Change of Control (as defined below), the Warrant shall, on the date of such event, become immediately exercisable.

A "***Change of Control***" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

Section 3. Term of Warrant Agreement. Except as otherwise expressly provided herein, this Warrant Agreement shall become void and all rights hereunder and all rights in respect thereof under the Warrant shall cease as of the Warrant Termination Date except to the extent that the Warrant is exercised prior to such date.

Section 4. Number of Shares. The Warrant shall be exercisable for up to the number of shares of Common Stock determined in accordance with the terms of the Engagement Letter and which shall be indicated on the Warrant, subject to adjustment as provided herein (the "***Warrant Shares***").

Section 5. Adjustment Provisions. The Exercise Price and the number of shares of Common Stock underlying the Warrant shall be subject to adjustment from time to time as hereinafter set forth:

(a) *Stock Dividends – Stock Splits*. If after the date hereof, the number of outstanding shares of Common Stock is increased by a stock dividend payable in shares of Common Stock or by a sub-division or a stock split of shares of Common Stock or other similar event as described in the Company's Restated Certificate of Incorporation (the "***Restated Certificate***"), then, on the effective date thereof, the number of shares of Common Stock issuable on exercise of the Warrant shall be increased in proportion to such increase in outstanding shares.

(b) *Aggregation of Shares*. If after the date hereof, the number of outstanding shares of Common Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Common Stock or other similar event, then, on the effective date thereof, the number of shares of Common Stock issuable on exercise of the Warrant shall be decreased in proportion to such decrease in outstanding shares.

(c) *Adjustments in Exercise Price*. Whenever the number of the shares of Common Stock issuable upon the exercise of the Warrant is adjusted, as provided in Sections 5(a) and (b), the Exercise Price shall be adjusted (to the nearest cent) by multiplying such Exercise Price immediately prior to such adjustment by a fraction (x) the numerator of which shall be the number of the shares of Common Stock purchasable upon the exercise of the Warrant immediately prior to such adjustment and (y) the denominator of which shall be the number of the shares of Common Stock so purchasable immediately thereafter.

(d) *When De Minimis Adjustment May Be Deferred.* No adjustment in the Exercise Price need be made unless the adjustment would require an increase or decrease of at least 1% in the Exercise Price. Any adjustments that are not made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 5 shall be made to the nearest 1/100th of a share.

(e) *Notice.* Whenever there shall be an adjustment as provided in this Section 5, the Company shall promptly cause written notice thereof to be sent to the Holder in accordance with Section 11 hereof, which notice shall be accompanied by an officer's certificate setting forth the number of Warrant Shares purchasable upon the exercise of this Warrant and the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment and the computation thereof. Additionally, in case at any time the Company shall propose:

(i) to pay any dividend or make any distribution on shares of Common Stock in shares of Common Stock or make any other distribution to all holders of Common Stock; or

(ii) to issue any rights, warrants or other securities to all holders of Common Stock entitling them to purchase any additional shares of Common Stock or any other rights, warrants or other securities; or

(iii) to effect any reclassification or change of outstanding shares of Common Stock, or any consolidation, merger or sale; or

(iv) to effect any liquidation, dissolution or winding-up of the Company;

then, and in any one or more of such cases, the Company shall give written notice thereof to the Holder in accordance with Section 11 hereof, which notice shall be sent at least fifteen (15) days prior to (i) the date as of which the holders of record of shares of Common Stock to be entitled to receive any such dividend, distribution, rights, warrants, other securities are to be determined or (ii) the date on which any such reclassification, change of outstanding shares of Common Stock, consolidation, merger, sale, liquidation, dissolution or winding-up is expected to become effective, and the date as of which it is expected that holders of record of shares of Common Stock shall be entitled to exchange their shares for securities or other property, if any, deliverable upon such reclassification, change of outstanding shares, consolidation, merger, sale, liquidation, dissolution or winding-up.

Section 6. Representations, Warranties and Covenants of the Company. The Company hereby represents, warrants and covenants to Holder as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing as a foreign corporation in each jurisdiction in which the nature of its business makes such qualification necessary and where the failure to so qualify would have a material adverse effect on its business or operations. The Company has all requisite corporate power and authority to carry out its business as presently conducted and as proposed to be conducted and to enter into and discharge its obligations under this Warrant Agreement and the Warrant.

(b) The execution and delivery of this Warrant Agreement and the Warrant by the Company and its performance and compliance with the terms of this Warrant Agreement and the Warrant have been duly authorized by all necessary corporate action on the part of the Company.

(c) The consummation of the transactions contemplated by this Warrant Agreement and the Warrant will not (i) conflict with, result in any breach of any of the terms and provisions of, or constitute (with or without notice or lapse of time or both) a default under, the certificate of incorporation or bylaws of the Company, or any material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument to which the Company is a party or by which it or any of its properties is bound, (ii) result in the creation or imposition of any lien, adverse claim or other encumbrance upon any of the properties of the Company pursuant to the terms of any such material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument, or (iii) violate any law or order, rule or regulation applicable to the Company of any court or of any federal or state regulatory body, administrative agency, or other governmental instrumentality having jurisdiction over the Company or any of its properties.

(d) This Warrant Agreement and the Warrant each constitutes a legal, valid and binding obligation of the Company and each is enforceable against the Company in accordance with the terms hereof and thereof, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and by general principles of equity (whether considered in a proceeding or action in equity or at law).

(e) The Company shall at all times keep a sufficient number of authorized but unissued shares of Common Stock reserved for issuance upon the exercise of the Warrant. The Warrant Shares, when issued, delivered and paid for in accordance with the terms of this Warrant Agreement and the Warrant, will be duly and validly issued, fully paid and non-assessable and will not have been issued in violation of the pre-emptive or contractual rights of any person or entity.

(f) Each Holder of ten percent (10%) or more of the aggregate Warrant Shares is entitled to receive from the Company such information and reports relating to the Company as the Company provides to holders of the Common Stock. The rights of such Holders under this Section 6(f) shall terminate upon the closing of an IPO.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of the Warrant or any certificate representing Warrant Shares, and, in the case of any such loss, theft or destruction, upon delivery of indemnity (which may include a bond) reasonably satisfactory to the Company, or, in the case of any such mutilation, upon surrender and cancellation of the Warrant or any certificate representing Warrant Shares, as the case may be, the Company will issue a new Warrant or certificates representing Warrant Shares, as the case may be, of like tenor representing an equivalent interest or right, in lieu of such lost, stolen, destroyed or mutilated Warrant or certificates representing Warrant Shares, as the case may be. The applicant for such replacement Warrant shall comply with such other reasonable requests as the Company may reasonably prescribe.

Section 7. Representations, Warranties and Covenants of Holder. Holder hereby represents, warrants and covenants to the Company as follows:

(a) Holder is acquiring the Warrant, and upon exercise of the Warrant will acquire the Warrant Shares, for its own account with no intention of distributing or reselling the Warrant or Warrant Shares in any transaction that would be a violation of the securities laws of the United States or any state, without prejudice to the Holder's rights at all times to sell or otherwise dispose of all or part of such Warrant under a registration under the Securities Act or an exemption available thereto. Holder is aware that neither the Warrant nor the Warrant Shares are registered under the Securities Act or any state or other jurisdiction's securities laws, and that Holder must hold the Warrant and the Warrant Shares indefinitely unless subsequently registered or an exemption from registration is available. Holder understands and agrees that the Warrant will bear the restrictive legend set forth on the Warrant and that the Warrant Shares will bear the legend set forth in Section 10 of this Warrant Agreement. Holder represents and warrants that it is an "accredited investor" as that term is defined in Rule 501 of Regulation D promulgated under the Securities Act.

Section 8. Registration Rights. The Holder shall be entitled to become a party to that certain Fourth Amended and Restated Registration Rights Agreement dated as of April 30, 2008, among the Company, prior holders of certain securities of the Company, and purchasers of shares of Series D Preferred Stock (the "***Registration Rights Agreement***"). Upon executing and delivering to the Company a counterpart of the Registration Rights Agreement, and subject to the terms and conditions set forth therein and Section 9 hereof, the Holder have the registration rights set forth in the Registration Rights Agreement with respect to the shares of Common Stock issuable upon exercise of the Warrant to the extent that such shares are Registrable Securities (as such term is defined in the Registration Rights Agreement).

Section 9. Effect of Registration Rights of Heirs, Assigns, Beneficiaries, Successors and Transferees. The heirs, assigns, beneficiaries and successor of the Holder shall be entitled to the registration rights set forth in Registration Rights Agreement, as amended; *provided, however,* that such Person or Persons will be able to exercise such rights of the Holder only if it or they have at least 5% of the equity interest in the Company.

Section 10. Transfers and Exchanges. Subject to the terms of Section 13 hereof, the Company shall from time to time register the transfer of the Warrant in a Warrant register to be maintained by the Company upon surrender thereof accompanied by a written instrument or instruments of transfer in the form of assignment attached hereto or as otherwise may be satisfactory to the Company, duly executed by the Holder thereof or by the duly appointed legal representative thereof or by a duly authorized attorney. Upon any such transfer, the surrendered Warrant shall be canceled and disposed of by the Company and a new Warrant shall be issued to the transferee(s). The Holder agrees that prior to any proposed transfer of the Warrant or of the Warrant Shares, if such transfer is not made pursuant to an effective registration statement under the Securities Act and any applicable state securities laws, the Holder shall deliver to the Company:

(a) an investment covenant substantially similar to Section 7(a) hereof and otherwise reasonably satisfactory to the Company signed by the proposed transferee;

(b) an agreement by such transferee to the impression of the restrictive investment legend set forth below on the Warrant or the Warrant Shares;

(c) an agreement by such transferee that the Company may place a notation in the securities ledgers of the Company or a "stop transfer order" with any transfer agent or registrar with respect to the Warrant Shares;

(d) an agreement by such transferee to be bound by the provisions of this Section 10 relating to the transfer of such Warrant or Warrant Shares; and

(e) an opinion of counsel, reasonably satisfactory in form and substance to the Company, that the transfer is exempt from registration requirements under the Securities Act and any applicable state securities laws.

The Holder agrees that each Warrant and each certificate representing Warrant Shares will bear the following legend:

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Section 11. Notices. All demands, notices and communications relating to this Warrant Agreement or any Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows:

If to the Company:

Amedica Corporation
615 Arapeen Drive, Suite 302
Salt Lake City, UT 84108
Attention: Ashok C. Khandkar
Chief Executive Officer
Telephone: (801) 535-4355
Telecopy: (801) 584-2533

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

Creation Capital LLC
100 Congress Avenue, Suite 2000
Austin, TX 78701
Attention: Gregg R. Honigblum,
Chief Executive Officer
Telephone: (512) 370-4900
Telecopy: (512) 473-4903

with a copy to:

Winston & Strawn LLP
200 Park Avenue
New York, NY 10166
Attention: Nick Krylov, Esq.
Telephone: (212) 294-6617
Telecopy: (212) 294-4700

Any such demand, notice or communication hereunder shall be deemed to have been duly given when received by the other party or parties at the address shown above or on the next succeeding business day if the date of receipt is not a business day, or such other address as may hereafter be furnished to the other party or parties by like notice and shall be deemed to have been received on the date delivered to or received at the premises of the addresses.

Section 12. Counterparts. For the purpose of facilitating the execution of this Warrant Agreement and for other purposes, this Warrant Agreement may be executed simultaneously in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute and be one and the same instrument; and such counterparts may be delivered via facsimile to the numbers designated in or pursuant to Section 11 hereof.

Section 13. Assignability. Subject to the provisions set forth in Section 10, the Holder may assign the rights and interests under this Warrant Agreement to any person without the Company's consent; *provided, however*, that in the event such assignee (other than an assignee which is a Holder Affiliate (as such term is defined below)) is reasonably deemed by the Company to compete with the Company in its traditional business activities (a "***competitor***"), the Company shall not be required to furnish to such assignee information and reports relating to the Company pursuant to Section 6(f) of this Warrant Agreement and, upon notice given by the

Company to Holder that such assignee is deemed a "competitor," Holder shall not furnish to such assignee any information or reports relating to the Company, without the Company's prior written consent; and provided, further, however, that no such assignment shall be made to the extent such transfer would subject the Company to the reporting requirements of the Securities Exchange Act of 1934, as amended. The Holder shall promptly cause written notice of any such transfer to be sent to the Company in accordance with Section 10 hereof at least fourteen (14) days prior to such transfer. Notwithstanding the foregoing or any other provision to the contrary, the Warrant and the Warrant Shares will be "restricted securities" as defined in Rule 144 under the Securities Act, and thus will not be transferable except in compliance with applicable federal and state securities laws and regulations. "***Holder Affiliate***" shall mean any person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such Holder.

Section 14. Governing Law; Jurisdiction; Waiver of Jury Trial.

(a) *Governing Law*. This Warrant Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

(b) *Jurisdiction*. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any New York State or Federal court sitting in New York City in any action or proceeding arising out of or relating to this Warrant Agreement or the Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 11 hereof. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Jury Trial*. **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT AGREEMENT OR ANY WARRANT ISSUED HEREUNDER.**

Section 15. Amendments. This Warrant Agreement may be amended from time to time by written instrument signed by the Company and the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant and no waiver of any of the terms hereof shall be effective unless it is in writing and signed by the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant or the Company, as the case may be. Any amendment or waiver pursuant to this Section 15 shall be binding on all Holders of the Warrant Shares and may be given retroactive, prospective or concurrent effect, depending upon the language in such amendment or waiver.

Section 16. No Waiver. No failure on the part of the Holder or the Company to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Section 17. Termination. This Warrant Agreement shall terminate on the Warrant Termination Date. Notwithstanding the foregoing, this Warrant Agreement will terminate on any earlier date if the Warrant has been exercised in full.

IN WITNESS WHEREOF, the parties hereto have caused this Common Stock Warrant Agreement to be duly executed by their respective officers on the day and year first above written.

AMEDICA CORPORATION

By: /s/ Ashok C. Khandkar
Name: Ashok C. Khandkar, Ph.D.
Title: Chief Executive Officer

CREATION CAPITAL LLC

By: /s/ Gregg R. Honigblum
Name: Gregg R. Honigblum
Title: Chief Executive Officer

Exhibit A

Form of Warrant

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Exercisable on or before
the Warrant Termination Date
(as defined below)

WARRANT TO PURCHASE COMMON STOCK

To Subscribe for and Purchase Common Stock

of

AMEDICA CORPORATION

WARRANT NO. __________

This certifies that, for value received, Creation Capital LLC, a Delaware limited liability company ("***Creation Capital***"), or its assigns Creation Capital and/or its assigns are collectively referred to herein as the "***Holder***"), is entitled to subscribe for and purchase from Amedica Corporation, a Delaware corporation (the "***Company***"), at any time commencing on the first anniversary of the date hereof and shall terminate at 5:00 p.m., New York City Time, on the seventh anniversary of the date hereof (the "***Warrant Termination Date***"), shares (the "***Warrant Shares***") of the Company's Common Stock, par value $0.01 per share (the "***Common Stock***"), subject to adjustment as provided in that certain Common Stock Warrant Agreement dated as of January **[ ]**, 2008, by and between the Company and Creation Capital (the "***Warrant Agreement***"), at an exercise price of $3.30 per share, as such exercise price may be adjusted from time to time under the Warrant Agreement. No Warrant may be exercised after the Warrant Termination Date.

In the event of (a) the closing of the issuance and sale of shares of Common Stock of the Company in the Company's first underwritten public offering ("***IPO***") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***"), or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "***Change of Control***" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

This Common Stock Purchase Warrant and all Common Stock Purchase Warrants issued in substitution or exchange therefor are herein individually called a "***Warrant***" and collectively called "***Warrants***."

This Warrant is issued pursuant to and, subject to the terms and conditions of, the Warrant Agreement, which Warrant Agreement is incorporated by reference in and made a part of this instrument. Capitalized terms not otherwise defined herein shall have the meanings given them in the Warrant Agreement. Any conflict between the terms of this Warrant and the Warrant Agreement shall be resolved in favor of the terms of the Warrant Agreement.

This Warrant is further subject to the following provisions, terms and conditions:

1. (a) In order to exercise this Warrant, in whole or in part, the Holder shall deliver to the Company, at the office the Company designated for such purpose in Section 11 of the Warrant Agreement, (i) the form of election to purchase set forth herein properly completed and signed, (ii) payment of the Warrant Price pursuant to Section 1(b), and (iii) this Warrant. Upon receipt of the items referred to in clauses (i), (ii) and (iii) above, the Company shall, as promptly as practicable, and in any event within ten (10) days thereafter, execute or cause to be executed and deliver or cause to be delivered to the Holder a certificate or certificates, in such name or names as the Holder may designate, representing the aggregate number of full shares of Common Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided in Section 4 hereof. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Common Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Payment to the Company of the purchase price for the Warrant Shares so purchased (the " ***Warrant Price***") may be made, at the option of the Holder, by payment of the Warrant Price in cash or by wire transfer or cashier's check drawn on a United States bank.

(c) Net Exercise. In lieu of exercising this Warrant pursuant to Section 1(b), the Holder may elect to receive, without the payment by the Holder of any additional consideration, shares of Common Stock equal to the value of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to the holder hereof a number of shares of Common Stock computed using the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where: X = The number of shares of Common Stock to be issued to the Holder pursuant to this net exercise;

Y = The number of shares of Common Stock in respect of which the net issue election is made;

A = The fair market value of one share of Common Stock at the time the net issue election is made;

B = The Exercise Price (as adjusted to the date of the net issuance).

For purposes of this Section 1(c), the fair market value of one share of Common Stock as of a particular date shall be determined as follows: (i) if traded on a securities exchange or through the Nasdaq Global Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; (ii) if traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; and (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Company; *provided, however*, that, if the Warrant is being exercised upon the closing of an IPO, the value will be the initial "Price to Public" of one share of such Common Stock specified in the final prospectus with respect to such offering (net of applicable underwriting commissions).

2. Notwithstanding the foregoing, however, the Company shall not be required to deliver any certificate for shares of Common Stock upon exercise of this Warrant except in accordance with the provisions, and subject to the limitations of, Section 4 hereof and the restrictive legend on the first page hereof.

3. The Company covenants and agrees that the Warrant Shares will, upon issuance, delivery and receipt of consideration therefor, be duly authorized and issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of Warrant Shares to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that the Warrant Shares may be so issued without violation of any applicable law or regulation or of any pre-emptive or contractual rights of any person or entity.

4. No fractional shares of Common Stock shall be issued upon the exercise of this Warrant, but, instead of any fraction of a share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Common Stock as of the close of business on the date of the notice required by Section 1 above.

5. This Warrant, unless and until exercised, shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

6. Subject to the provisions of Section 10 and Section 13 of the Warrant Agreement, this Warrant and all rights hereunder are assignable.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer and this Warrant to be dated as of , 20 .

AMEDICA CORPORATION

By: ______________________________

Its: ______________________________

Form of Election to Purchase

(To Be Executed Upon Exercise Of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant, to receive shares of Common Stock and herewith tenders payment for such shares to the order of CREATION CAPITAL LLC in the amount of $3.30 per share, as adjusted pursuant to the terms of that certain Common Stock Warrant Agreement, in accordance with the terms hereof and the terms of the Common Stock Warrant Agreement. The undersigned requests that a certificate for such shares be registered in the name of whose address is and that such shares be delivered to whose address is . If said number of shares is less than all of the shares of Common Stock purchasable hereunder, the undersigned requests that a new Warrant representing the remaining balance of such shares be registered in the name of whose address is and that such shares be delivered to whose address is .

Signature: ___________________________________

Date: __________

Form of Assignment

(To be executed upon assignment of Warrant)

FOR VALUE RECEIVED, , hereby sells, assigns and transfers unto that certain warrant (the "Warrant") dated as of , 20 , to purchase shares of Common Stock of Amedica Corporation (the "Company"), together with all right, title and interest therein, and does hereby irrevocably constitute and appoint attorney, to transfer the Warrant on the books of the Company, with full power of substitution in the premises.

Date: __________

[ ]

By: ______________________________
Name:
Title:

NOTE: The above signature should correspond exactly with the name on the face of this Warrant.

Exhibit 4.8

SERIES E
WARRANT AGREEMENT

THIS SERIES E WARRANT AGREEMENT (this "***Warrant Agreement***") dated of September 14, 2010, is made by and between CREATION CAPITAL LLC, a Delaware limited liability company ("***Creation Capital***"), and AMEDICA CORPORATION, a Delaware corporation (the "***Company***").

WHEREAS, pursuant to the letter dated September 30, 2009, as amended (the "***Engagement Letter***"), Creation Capital was engaged by the Company as the exclusive placement agent to the Company in the United States in connection with the private placement of up to $25,000,000, subject to an over-allotment of up to $5,000,000, of shares of the Company's Series E Convertible Preferred Stock (the "***Stock***"); and

WHEREAS, the Engagement Letter provides that within 30 days following the final closing of the sale of Stock, Creation Capital shall receive warrants to purchase a number of shares of Stock equal to eight percent (8%) of the total number of shares of Stock sold pursuant to the Company's Series E Offering; and

WHEREAS, the Engagement Letter further provides that the warrants shall be issued pursuant to a definitive warrant agreement mutually agreed to by the Company and Creation Capital.

NOW, THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purposes of defining terms and provisions of the Warrants and the certificates representing the Warrants and the respective rights and obligations thereunder of the Company, Creation Capital and the holders of certificates representing the Warrants, the Company and Creation Capital hereby agree as follows:

Section 1. Form of Warrant. The Company shall grant to Creation Capital (Creation Capital and/or its assigns are collectively referred to herein as the "***Holder***") warrant(s) (the "***Warrant***"), in the form of Exhibit A hereto, to purchase shares of Stock at a purchase price of $2.20 per share [which price shall be equal to 110% of the price per share at which the Company sells shares of Stock in its Series E Offering] (the "***Exercise Price***") all as more fully set forth herein. The Warrant shall be executed on behalf of the Company by its Chief Executive Officer or any other authorized officer of the Company, and dated as of the date of issuance of the Warrant.

Section 2. Exercise Period of Warrant. The Warrant shall be exercisable at any time commencing on the first anniversary of the date of issuance of the Warrant and shall terminate at 5:00 p.m., New York City Time, on September 14, 2015 [the fifth anniversary of the original date of issuance of the Warrant] (the "***Warrant Termination Date***"); *provided, however*, that in the event of (a) the closing of the issuance and sale of shares of the common stock, $0.01 par value per share (the "***Common Stock***"), of the Company in the Company's first underwritten

public offering ("***IPO***") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***") or (b) a Change of Control (as defined below), the Warrant shall, on the date of such event, become immediately exercisable.

A "***Change of Control***" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

Section 3. Term of Warrant Agreement. Except as otherwise expressly provided herein, this Warrant Agreement shall become void and all rights hereunder and all rights in respect thereof under the Warrant shall cease as of the Warrant Termination Date except to the extent that the Warrant is exercised prior to such date.

Section 4. Number of Shares. The Warrant shall be exercisable for up to the number of shares of Stock determined in accordance with the terms of the Engagement Letter, and such number shall be indicated on the Warrant, and which shall be subject to adjustment as provided herein (the "***Warrant Shares***").

Section 5. Adjustment Provisions. The Exercise Price and the number of shares of Stock underlying the Warrant shall be subject to adjustment from time to time as hereinafter set forth:

(a) *Stock Dividends – Stock Splits*. If after the date hereof, the number of outstanding shares of Stock is increased by a stock dividend payable in shares of Stock or by a sub-division or a stock split of shares of Stock or other similar event as described in the Certificate of Designation, Preferences and Rights of the Stock, as amended from time to time (the "***Certificate of Designation***"), then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be increased in proportion to such increase in outstanding shares.

(b) *Aggregation of Shares*. If after the date hereof, the number of outstanding shares of Stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of Stock or other similar event, then, on the effective date thereof, the number of shares of Stock issuable on exercise of the Warrant shall be decreased in proportion to such decrease in outstanding shares.

(c) *Adjustments in Exercise Price*. Whenever the number of the shares of Stock issuable upon the exercise of the Warrant is adjusted, as provided in Sections 5(a) and (b), the Exercise Price shall be adjusted (to the nearest cent) by multiplying such Exercise Price immediately prior to such adjustment by a fraction (x) the numerator of which shall be the number of the shares of Stock purchasable upon the exercise of the Warrant immediately prior to such adjustment and (y) the denominator of which shall be the number of the shares of Stock so purchasable immediately thereafter.

(d) *When De Minimis Adjustment May Be Deferred.* No adjustment in the Exercise Price need be made unless the adjustment would require an increase or decrease of at least 1% in the Exercise Price. Any adjustments that are not made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 5 shall be made to the nearest 1/100th of a share.

(e) *Notice.* Whenever there shall be an adjustment as provided in this Section 5, the Company shall promptly cause written notice thereof to be sent to the Holder in accordance with Section 11 hereof, which notice shall be accompanied by an officer's certificate setting forth the number of Warrant Shares purchasable upon the exercise of the Warrant and the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment and the computation thereof. Additionally, in case at any time the Company shall propose:

(i) to pay any dividend or make any distribution on shares of Stock in shares of Stock or make any other distribution to all holders of Stock; or

(ii) to issue any rights, warrants or other securities to all holders of Stock entitling them to purchase any additional shares of Stock or any other rights, warrants or other securities; or

(iii) to effect any reclassification or change of outstanding shares of Stock, or any consolidation, merger or sale; or

(iv) to effect any liquidation, dissolution or winding-up of the Company;

then, and in any one or more of such cases, the Company shall give written notice thereof to the Holder in accordance with Section 11 hereof, which notice shall be sent at least fifteen (15) days prior to (i) the date as of which the holders of record of shares of Stock to be entitled to receive any such dividend, distribution, rights, warrants, other securities are to be determined or (ii) the date on which any such reclassification, change of outstanding shares of Stock, consolidation, merger, sale, liquidation, dissolution or winding-up is expected to become effective, and the date as of which it is expected that holders of record of shares of Stock shall be entitled to exchange their shares for securities or other property, if any, deliverable upon such reclassification, change of outstanding shares, consolidation, merger, sale, liquidation, dissolution or winding-up.

Section 6. Representations, Warranties and Covenants of the Company. The Company hereby represents, warrants and covenants to Holder as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing as a foreign corporation in each jurisdiction in which the nature of its business makes such qualification necessary and where the failure to so qualify would have a material adverse effect on its business or operations. The Company has all requisite corporate power and authority to carry out its business as presently conducted and as proposed to be conducted and to enter into and discharge its obligations under this Warrant Agreement and the Warrant.

(b) The execution and delivery of this Warrant Agreement and the Warrant by the Company and its performance and compliance with the terms of this Warrant Agreement and the Warrant have been duly authorized by all necessary corporate action on the part of the Company.

(c) The consummation of the transactions contemplated by this Warrant Agreement and the Warrant will not (i) conflict with, result in any breach of any of the terms and provisions of, or constitute (with or without notice or lapse of time or both) a default under, the certificate of incorporation or bylaws of the Company, or any material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument to which the Company is a party or by which it or any of its properties is bound, (ii) result in the creation or imposition of any lien, adverse claim or other encumbrance upon any of the properties of the Company pursuant to the terms of any such material contract, agreement, indenture, loan agreement, receivables purchase agreement, mortgage, deed of trust, or other agreement or instrument, or (iii) violate any law or order, rule or regulation applicable to the Company of any court or of any federal or state regulatory body, administrative agency, or other governmental instrumentality having jurisdiction over the Company or any of its properties.

(d) This Warrant Agreement and the Warrant each constitutes a legal, valid and binding obligation of the Company and each is enforceable against the Company in accordance with the terms hereof and thereof, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditors' rights generally and by general principles of equity (whether considered in a proceeding or action in equity or at law).

(e) The Company shall at all times keep a sufficient number of authorized but unissued shares of Stock reserved for issuance upon the exercise of the Warrant, and it also shall keep a sufficient number of authorized but unissued shares of Common Stock reserved for issuance upon conversion any Warrant Shares that may be issued resulting from exercise of the Warrant. The Warrant Shares, when issued, delivered and paid for in accordance with the terms of this Warrant Agreement and the Warrant, will be duly and validly issued, fully paid and non-assessable and will not have been issued in violation of the pre-emptive or contractual rights of any person or entity.

(f) The Company shall deliver to each Holder of ten percent (10%) or more of the aggregate Warrant Shares such information and reports relating to the Company as the Company is required to provide to other holders of the Stock. The rights of such Holders under this Section 6(f) shall terminate upon the closing of the IPO.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of the Warrant or any certificate representing Warrant Shares, and, in the case of any such loss, theft or destruction, upon delivery of indemnity (which may include a bond) reasonably satisfactory to the Company, or, in the case of any such mutilation, upon surrender and cancellation of the Warrant or any certificate representing Warrant Shares, as the case may be, the Company will issue a new Warrant or certificates representing Warrant Shares, as the case may be, of like tenor representing an equivalent interest or right, in lieu of such lost, stolen, destroyed or mutilated Warrant or certificates representing Warrant Shares, as the case may be. The applicant for such replacement Warrant shall comply with such other reasonable requests as the Company may reasonably prescribe.

Section 7. Representations, Warranties and Covenants of Holder. Holder hereby represents, warrants and covenants to the Company as follows:

(a) Holder is acquiring the Warrant, and upon exercise of the Warrant will acquire the Warrant Shares, for its own account with no intention of distributing or reselling the Warrant or Warrant Shares in any transaction that would be a violation of the securities laws of the United States or any state, without prejudice to the Holder's rights at all times to sell or otherwise dispose of all or part of such Warrant under a registration under the Securities Act or an exemption available thereto. Holder is aware that neither the Warrant nor the Warrant Shares are registered under the Securities Act or any state or other jurisdiction's securities laws, and that Holder must hold the Warrant and the Warrant Shares indefinitely unless subsequently registered or an exemption from registration is available. Holder understands and agrees that the Warrant will bear the restrictive legend set forth on the Warrant and that the Warrant Shares will bear the legend set forth in Section 10 of this Warrant Agreement. Holder represents and warrants that it is an "accredited investor" as that term is defined in Rule 501 of Regulation D promulgated under the Securities Act.

Section 8. Registration Rights. The Holder shall be entitled to become a party to that certain Fifth Amended and Restated Registration Rights Agreement dated as of   , 2010, among the Company, prior holders of certain securities of the Company, and purchasers of shares of Stock (the "***Registration Rights Agreement***"). Upon executing and delivering to the Company a counterpart of the Registration Rights Agreement, and subject to the terms and conditions set forth therein and Section 9 hereof, the Holder have the registration rights set forth in the Registration Rights Agreement with respect to the shares of Common Stock issuable upon conversion of the Warrant Shares to the extent that such shares are Registrable Securities (as such term is defined in the Registration Rights Agreement).

Section 9. Effect of Registration Rights of Heirs, Assigns, Beneficiaries, Successors and Transferees. The heirs, assigns, beneficiaries and successor of the Holder shall be entitled to the registration rights set forth in Registration Rights Agreement, as amended; *provided, however*, that such Person or Persons will be able to exercise such rights of the Holder only if it or they have at least 5% of the equity interest in the Company.

Section 10. Transfers and Exchanges. Subject to the terms of Section 13 hereof, the Company shall from time to time register the transfer of the Warrant in a Warrant register to be maintained by the Company upon surrender thereof accompanied by a written instrument or instruments of transfer in the form of assignment attached hereto or as otherwise may be satisfactory to the Company, duly executed by the Holder thereof or by the duly appointed legal representative thereof or by a duly authorized attorney. Upon any such transfer, the surrendered Warrant shall be canceled and disposed of by the Company and a new Warrant shall be issued to the transferee(s). The Holder agrees that prior to any proposed transfer of the Warrant or of the Warrant Shares, if such transfer is not made pursuant to an effective registration statement under the Securities Act and any applicable state securities laws, the Holder shall deliver to the Company:

(a) an investment covenant substantially similar to Section 7(a) hereof and otherwise reasonably satisfactory to the Company signed by the proposed transferee;

(b) an agreement by such transferee to the impression of the restrictive investment legend set forth below on the Warrant or the Warrant Shares;

(c) an agreement by such transferee that the Company may place a notation in the stock books of the Company or a "stop transfer order" with any transfer agent or registrar with respect to the Warrant Shares;

(d) an agreement by such transferee to be bound by the provisions of this Section 10 relating to the transfer of such Warrant or Warrant Shares; and

(e) an opinion of counsel, reasonably satisfactory in form and substance to the Company, that the transfer is exempt from registration requirements under the Securities Act and any applicable state securities laws.

The Holder agrees that each Warrant and each certificate representing Warrant Shares will bear the following legend:

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Section 11. Notices. All demands, notices and communications relating to this Warrant Agreement or any Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows:

If to the Company:

Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attention: Ben Shappley
Chief Executive Officer
Telephone: (801) 839-3500
Telecopy: (801) 839-3605

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

Creation Capital LLC
6300 Bridge Point Parkway
Building One, Suite 550
Austin, TX 78730
Attention: Gregg R. Honigblum,
Chief Executive Officer
Telephone: (512) 356-9276
Telecopy: (512)

with a copy to:

Winston & Strawn LLP
200 Park Avenue
New York, NY 10166
Attention: Nick Krylov, Esq.
Telephone: (212) 294-6617
Telecopy: (212) 294-4700

Any such demand, notice or communication hereunder shall be deemed to have been duly given when received by the other party or parties at the address shown above or on the next succeeding business day if the date of receipt is not a business day, or such other address as may hereafter be furnished to the other party or parties by like notice and shall be deemed to have been received on the date delivered to or received at the premises of the addresses.

Section 12. Counterparts. For the purpose of facilitating the execution of this Warrant Agreement and for other purposes, this Warrant Agreement may be executed simultaneously in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute and be one and the same instrument; and such counterparts may be delivered via facsimile to the numbers designated in or pursuant to Section 11 hereof.

Section 13. Assignability. Subject to the provisions set forth in Section 10, the Holder may assign the rights and interests under this Warrant Agreement to any person without the Company's consent; provided, however, that in the event such assignee (other than an assignee which is a Holder Affiliate (as such term is defined below)) is reasonably deemed by the Company to compete with the Company in its traditional business activities (a "***competitor***"), the Company shall not be required to furnish to such assignee information and reports relating to the Company pursuant to Section 6(f) of this Warrant Agreement and, upon notice given by the

Company to Holder that such assignee is deemed a "competitor," Holder shall not furnish to such assignee any information or reports relating to the Company, without the Company's prior written consent; and provided, further, however, that no such assignment shall be made to the extent such transfer would subject the Company to the reporting requirements of the Securities Exchange Act of 1934, as amended. The Holder shall promptly cause written notice of any such transfer to be sent to the Company in accordance with Section 10 hereof at least fourteen (14) days prior to such transfer. Notwithstanding the foregoing or any other provision to the contrary, the Warrant and the Warrant Shares will be "restricted securities" as defined in Rule 144 under the Securities Act, and thus will not be transferable except in compliance with applicable federal and state securities laws and regulations. "***Holder Affiliate***" shall mean any person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such Holder.

Section 14. Governing Law; Jurisdiction; Waiver of Jury Trial.

(a) *Governing Law*. This Warrant Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

(b) *Jurisdiction*. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any New York State or Federal court sitting in New York City in any action or proceeding arising out of or relating to this Warrant Agreement or the Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 11 hereof. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Jury Trial*. **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT AGREEMENT OR ANY WARRANT ISSUED HEREUNDER.**

Section 15. Amendments. This Warrant Agreement may be amended from time to time by written instrument signed by the Company and the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant and no waiver of any of the terms hereof shall be effective unless it is in writing and signed by the Holders of a majority of the Warrant Shares issued or issuable upon exercise of the Warrant or the Company, as the case may be. Any amendment or waiver pursuant to this Section 15 shall be binding on all Holders of the Warrant Shares and may be given retroactive, prospective or concurrent effect, depending upon the language in such amendment or waiver.

Section 16. No Waiver. No failure on the part of the Holder or the Company to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Section 17. Termination. This Warrant Agreement shall terminate on the Warrant Termination Date. Notwithstanding the foregoing, this Warrant Agreement will terminate on any earlier date if the Warrant has been exercised in full.

IN WITNESS WHEREOF, the parties hereto have caused this Series E Warrant Agreement to be duly executed by their respective officers on the day and year first above written.

AMEDICA CORPORATION

By: /s/ Reyn Gallacher
Name: Reyn Gallacher
Title: Chief Financial Officer

CREATION CAPITAL LLC

By: /s/ Gregg R. Honigblum
Name: Gregg R. Honigblum
Title: Chief Executive Officer

Exhibit A

Form of Warrant

THE SECURITIES EVIDENCED OR CONSTITUTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SECURITIES MAY NOT BE SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS THE REGISTRATION PROVISIONS OF SAID ACT AND ANY APPLICABLE STATE SECURITIES LAWS HAVE BEEN COMPLIED WITH OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

Exercisable on or before
the Warrant Termination Date
(as designated below)

WARRANT TO PURCHASE SERIES E CONVERTIBLE PREFERRED STOCK

To Subscribe for and Purchase Series E Convertible Preferred Stock

of

AMEDICA CORPORATION

WARRANT NO.

This certifies that, for value received, Creation Capital LLC, a Delaware limited liability company ("***Creation Capital***"), or its assigns Creation Capital and/or its assigns are collectively referred to herein as the "***Holder***"), is entitled to subscribe for and purchase from Amedica Corporation, a Delaware corporation (the "***Company***"), at any time commencing on the first anniversary of the date hereof and shall terminate at 5:00 p.m., New York City Time, on , 201 [the fifth anniversary of the date on which this Warrant (as defined below) was originally issued by the Company] (the "***Warrant Termination Date***"), shares (the "***Warrant Shares***") of the Company's Series E Convertible Preferred Stock, par value $0.01 per share (the "***Series E Preferred Stock***"), subject to adjustment as provided in that certain Series E Warrant Agreement, dated as of , 2010, by and between the Company and Creation Capital (the "***Warrant Agreement***"), at an exercise price of $ per share, as such exercise price may be adjusted from time to time under the Warrant Agreement. No Warrant may be exercised after the Warrant Termination Date.

In the event of (a) the closing of the issuance and sale of shares of common stock, $0.01 par value per share (the "***Common Stock***"), of the Company in the Company's first underwritten public offering ("***IPO***") pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***"), or (b) a Change of Control, the Warrant shall, on the date of such event, become immediately exercisable.

A "***Change of Control***" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal re-structuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

This Series E Preferred Stock Purchase Warrant and all Series E Preferred Stock Purchase Warrants issued in substitution or exchange therefor are herein individually called a "***Warrant***" and collectively called "***Warrants***."

This Warrant is issued pursuant to and, subject to the terms and conditions of, the Warrant Agreement, which Warrant Agreement is incorporated by reference in and made a part of this instrument. Capitalized terms not otherwise defined herein shall have the meanings given them in the Warrant Agreement. Any conflict between the terms of this Warrant and the Warrant Agreement shall be resolved in favor of the terms of the Warrant Agreement.

This Warrant is further subject to the following provisions, terms and conditions:

1. (a) In order to exercise this Warrant, in whole or in part, the Holder shall deliver to the Company, at the office the Company designated for such purpose in Section 11 of the Warrant Agreement, (i) the form of election to purchase set forth herein properly completed and signed, (ii) payment of the Warrant Price pursuant to Section 1(b), and (iii) this Warrant. Upon receipt of the items referred to in clauses (i), (ii) and (iii) above, the Company shall, as promptly as practicable, and in any event within ten (10) days thereafter, execute or cause to be executed and deliver or cause to be delivered to the Holder a certificate or certificates, in such name or names as the Holder may designate, representing the aggregate number of full shares of Series E Preferred Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided in Section 4 hereof. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Series E Preferred Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Payment to the Company of the purchase price for the Warrant Shares so purchased (the " ***Warrant Price***") may be made, at the option of the Holder, by payment of the Warrant Price in cash or by wire transfer or cashier's check drawn on a United States bank.

(c) Net Exercise. In the event of any exercise of this Warrant in connection with an automatic conversion of the Series E Preferred Stock into shares of the Company's Common Stock pursuant to Section 2(c) of the Certificate of Designation, in lieu of exercising this Warrant pursuant to Section 1(b), the Holder may elect to receive, without the payment by the Holder of any additional consideration, shares of Series E Preferred Stock equal to the value of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with notice of such election, in which event the Company shall issue to the holder hereof a number of shares of Series E Preferred Stock computed using the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where: X = The number of shares of Series E Preferred Stock to be issued to the Holder pursuant to this net exercise;

Y = The number of shares of Series E Preferred Stock in respect of which the net issue election is made;

A = The fair market value of one share of the Series E Preferred Stock at the time the net issue election is made;

B = The Exercise Price (as adjusted to the date of the net issuance).

For purposes of this Section 1(c), the fair market value of one share of Series E Preferred Stock (or Common Stock, to the extent all such Series E Preferred Stock has been converted into the Company's Common Stock) as of a particular date shall be determined as follows: (i) if traded on a securities exchange or through the Nasdaq Global Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; (ii) if traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; and (iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Company; provided, however, that, if the Warrant is being exercised upon the closing of the IPO, the value will be the initial "Price to Public" of one share of such Series E Preferred Stock (or Common Stock issuable upon conversion of such Series E Preferred Stock) specified in the final prospectus with respect to such offering (net of applicable underwriting commissions).

2. Notwithstanding the foregoing, however, the Company shall not be required to deliver any certificate for shares of stock upon exercise of this Warrant except in accordance with the provisions, and subject to the limitations of, Section 4 hereof and the restrictive legend on the first page hereof.

3. The Company covenants and agrees that the Warrant Shares will, upon issuance, delivery and receipt of consideration therefor, be duly authorized and issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof.

The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of Warrant Shares to provide for the exercise of the rights represented by this Warrant, and it also will have authorized, and reserved for the purpose of issue, a sufficient number of shares of Common Stock to provide for the conversion of Warrant Shares. The Company will take all such action as may be necessary to assure that the Warrant Shares may be so issued without violation of any applicable law or regulation or of any pre-emptive or contractual rights of any person or entity.

4. No fractional shares of Series E Preferred Stock shall be issued upon the exercise of this Warrant, but, instead of any fraction of a share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Series E Preferred Stock as of the close of business on the date of the notice required by Section 1 above.

5. This Warrant, unless and until exercised, shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

6. Subject to the provisions of Section 10 and Section 13 of the Warrant Agreement, this Warrant and all rights hereunder are assignable.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer and this Warrant to be dated as of , 20 .

AMEDICA CORPORATION

By: ________________________

Its: ________________________

Form of Election to Purchase

(To Be Executed Upon Exercise Of Warrant)

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant, to receive shares of Series E Preferred Stock and herewith tenders payment for such shares to the order of CREATION CAPITAL LLC in the amount of $ per share, as adjusted pursuant to the terms of that certain Series E Warrant Agreement, in accordance with the terms hereof and the terms of the Series E Warrant Agreement. The undersigned requests that a certificate for such shares be registered in the name of whose address is and that such shares be delivered to whose address is . If said number of shares is less than all of the shares of Series E Preferred Stock purchasable hereunder, the undersigned requests that a new Warrant representing the remaining balance of such shares be registered in the name of whose address is and that such shares be delivered to whose address is .

Signature: ____

Date: ____

Form of Assignment

(To be executed upon assignment of Warrant)

FOR VALUE RECEIVED, , hereby sells, assigns and transfers unto that certain warrant (the “Warrant”) dated as of , 20 , to purchase shares of Series E Preferred Stock of Amedica Corporation (the “Company”), together with all right, title and interest therein, and does hereby irrevocably constitute and appoint attorney, to transfer the Warrant on the books of the Company, with full power of substitution in the premises.

Date: ______________________________________

[ ]

By: ______________________________________
Name:
Title:

NOTE: The above signature should correspond exactly with the name on the face of this Warrant.

Exhibit 4.10

NEITHER THIS WARRANT NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THIS WARRANT HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUBJECT TO SECTION 6 BELOW, AND EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT, NO SALE OR DISPOSITION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR HOLDER, SATISFACTORY TO COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 156,978 SHARES OF SERIES F CONVERTIBLE PREFERRED STOCK

December 17, 2012

THIS CERTIFIES THAT, for value received, GE Capital Equity Investments, Inc. ("Holder"), a Delaware corporation, is entitled to subscribe for and purchase: One Hundred Fifty-Six Thousand Nine Hundred Seventy-Eight (156,978) shares of fully paid and nonassessable shares of Series F Convertible Preferred Stock of Amedica Corporation, a Delaware corporation ("Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Preferred Stock" shall mean Company's presently authorized Series F Convertible Preferred Stock, $0.01 par value per share, and any stock into which such Series F Convertible Preferred Stock may hereafter be converted or exchanged and the term "Warrant Shares" shall mean the shares of Preferred Stock which Holder may acquire pursuant to this Warrant and any other shares of stock into which such shares of Preferred Stock may hereafter be converted or exchanged.

1. Warrant Price. The "Warrant Price" shall initially be Two and 00/100 dollars ($2.00) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending at 5:00 P.M. (New York City time) on the tenth anniversary of the date of this Warrant (the "Expiration Date").

3. Method of Exercise or Conversion; Payment; Issuance of Shares; Issuance of New Warrant.

(a) Cash Exercise. Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by Holder hereof, in whole or in part, by the surrender of the original of this Warrant (together with a duly executed Notice of Exercise in substantially the form attached hereto) at the principal office of Company (as set forth in Section 18 below) and by payment to Company, by certified or bank check, or wire transfer of immediately available funds, of an amount equal to the then applicable Warrant Price per share multiplied by the number of Warrant Shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 30 days after exercise of this Warrant and at Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant and representing the portion of the Warrant Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to Holder hereof within 30 days after exercise of this Warrant.

(b) Conversion. In lieu of exercising this Warrant as specified in Section 3(a), Holder may from time to time convert this Warrant, in whole or in part, into Warrant Shares by surrender of the original of this Warrant (together with a duly executed Notice of Exercise in substantially the form attached hereto) at the principal office of Company, in which event Company shall issue to Holder the number of Warrant Shares computed using the following formula:

$$X = \frac{Y(A-B)}{A}$$

Where:

X = the number of Warrant Shares to be issued to Holder.

Y = the number of Warrant Shares requested to be purchased under this Warrant (at the date of such calculation).

A = the Fair Market Value of one share of Company's Preferred Stock (at the date of such calculation).

B = Warrant Price (as adjusted to the date of such calculation).

(c) Fair Market Value. For purposes of this Section 3, Fair Market Value of one share of Company's Preferred Stock shall mean:

(i) In the event of an exercise in connection with the initial underwritten public offering of shares of common stock of the Company ("Common Stock" pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Act"), the offering price at which the underwriters initially sell Common Stock to the public multiplied by the number of shares of Common Stock into which each share of Preferred Stock is then convertible; or

(ii) The average of the closing bid and asked prices of Common Stock quoted in the Over-The-Counter Market Summary, or the last reported sale price quoted on the Nasdaq Stock Market or on any other exchange on which the Common Stock is listed, whichever is applicable, as published in the Eastern Edition of the Wall Street Journal for the five (5) trading days prior to the date of determination of Fair Market Value, multiplied by the number of shares of Common Stock into which each share of Preferred Stock is then convertible; or

(iii) In the event of an exercise in connection with a merger, acquisition or other consolidation in which Company is not the surviving entity, the value to be received per share of Preferred Stock by all holders of the Preferred Stock in such transaction as determined in the reasonable good faith judgment of Company's Board of Directors; or

(iv) In any other instance, the value as determined in the reasonable good faith judgment of Company's Board of Directors.

In the event of Section 3(c)(iii) or 3(c)(iv) above, Company's Board of Directors shall prepare a certificate, to be signed by an authorized officer of Company, setting forth in reasonable detail the basis for and method of determination of the per share Fair Market Value of the Preferred Stock. In the event of Section 3(c)(iii) or 3(c)(iv) above, the Board of Directors will also certify to Holder that this per share Fair Market Value will be applicable to all holders of Company's Preferred Stock. Such certifications must be made to Holder, in the event of Section 3(c)(iii) above, at least ten (10) business days prior to the proposed effective date of the merger, acquisition or other consolidation, and in the event of Section 3(c)(iv), promptly after exercise of this Warrant.

(d) Automatic Exercise. To the extent this Warrant is not previously exercised, it shall be deemed to have been automatically converted in accordance with Sections 3(b) and 3(c) hereof (even if not surrendered) as of immediately before its expiration, involuntary termination or cancellation (including, without limitation, pursuant to Section 3(e)(ii)) if the then-Fair Market Value of a Warrant Share exceeds the then-Warrant Price, unless Holder notifies Company in writing to the contrary prior to such automatic exercise.

(e) Treatment of Warrant Upon Acquisition of Company.

(i) Certain Definitions. For the purpose of this Warrant: "Acquisition" means any sale, license, assignment, or other disposition of all or substantially all of the assets of Company, or any reorganization, consolidation, or merger of Company, or sale of outstanding Company securities

by holders thereof, where the holders of Company's securities as of immediately before the transaction beneficially own less than a majority of the outstanding voting securities of the successor or surviving entity as of immediately after the transaction. For purposes of this Section 3(e), "Affiliate" shall mean any person or entity that owns or controls directly or indirectly ten percent (10%) or more of the voting capital stock of Company, any person or entity that controls or is controlled by or is under common control with such persons or entities, and each of such person's or entity's officers, directors, joint venturers or partners, as applicable. Company shall provide Holder with written notice of any proposed Acquisition not later than ten (10) business days prior to the closing thereof setting forth the material terms and conditions thereof, and shall provide Holder with copies of the draft transaction agreements and other documents in connection therewith and with such other information respecting such proposed Acquisition as may reasonably be requested by Holder.

(ii) Acquisition for Cash. Holder agrees that, in the event of an Acquisition in which the sole consideration is cash, this Warrant shall be automatically exercised (or terminate) as provided in Section 3(d) on and as of the closing of such Acquisition to the extent not previously exercised.

(iii) Asset Sale. In the event of an Acquisition that is an arms length sale of all or substantially all of Company's assets (and only its assets) to a third party that is not an Affiliate of Company (a "True Asset Sale"), Holder may either (a) exercise its conversion or purchase right under this Warrant and such exercise will be deemed effective immediately prior to the consummation of such Acquisition, or (b) permit the Warrant to continue until the Expiration Date if Company continues as a going concern following the closing of any such True Asset Sale.

(iv) Assumption of Warrant. Upon the closing of any Acquisition other than as particularly described in Section 3(e)(ii) or 3(e)(iii) above, Company shall, unless Holder requests otherwise, cause the surviving or successor entity to assume this Warrant and the obligations of Company hereunder, and this Warrant shall, from and after such closing, be exercisable for the same class, number and kind of securities, cash and other property as would have been paid for or in respect of the shares issuable (as of immediately prior to such closing) upon exercise in full hereof as if such shares had been issued and outstanding on and as of such closing, at an aggregate Warrant Price equal to the aggregate Warrant Price in effect as of immediately prior to such closing; and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant.

4. Representations and Warranties of Holder and Company.

(a) Representations and Warranties by Holder. Holder represents and warrants to Company as of the date hereof with respect to this Warrant as follows:

(i) Evaluation. Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to Company so that Holder is capable of evaluating the merits and risks of its investment in Company and has the capacity to protect its interests.

(ii) Resale. Except for transfers to an affiliate of Holder, Holder is acquiring this Warrant and the Warrant Shares issuable upon exercise of this Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. Holder understands that the Securities have not been registered under Act by reason of a specific exemption from the registration provisions of the Act and such Securities have not been registered or qualified under any applicable state securities laws, each of which depends upon, among other things, the bona fide nature of the investment intent as expressed herein.

(iii) Rule 144. Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

(iv) Accredited Investor. Holder is an “accredited investor” within the meaning of Regulation D promulgated under the Act.

(v) Opportunity To Discuss. Holder has had an opportunity to discuss Company’s business, management and financial affairs with its management and an opportunity to review Company’s facilities. Holder understands that such discussions, as well as the written information issued by Company, were intended to describe the aspects of Company’s business and prospects which Company believes to be material but were not necessarily a thorough or exhaustive description.

(b) Representations and Warranties by Company. Company hereby represents and warrants to Holder that the statements in the following paragraphs of this Section 4(b) are true and correct as of the date hereof.

(i) Corporate Organization and Authority. Company (a) is a corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction of its organization, (b) has the corporate power and authority to own and operate its properties and to carry on its business as now conducted and as proposed to be conducted; and (c) is qualified as a foreign corporation in all jurisdictions where such qualification is required.

(ii) Corporate Power. Company has all requisite legal and corporate power and authority to execute, issue and deliver this Warrant, to issue the Warrant Shares issuable upon exercise or conversion of this Warrant, and to carry out and perform its obligations under this Warrant and any related agreements.

(iii) Authorization; Enforceability. All corporate action on the part of Company, its officers, directors and shareholders necessary for the authorization, execution, delivery and performance of its obligations under this Warrant and for the authorization, issuance and delivery of this Warrant and the Warrant Shares issuable upon exercise of this Warrant has been taken and this Warrant constitutes the legally binding and valid obligation of Company enforceable in accordance with its terms.

(iv) Valid Issuance of Warrant and Warrant Shares. This Warrant has been validly issued and is free of restrictions on transfer other than restrictions on transfer set forth herein and under applicable state and federal securities laws. The Warrant Shares issuable upon exercise or conversion of this Warrant, when issued, sold and delivered in accordance with the terms of this Warrant for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable, and will be free of restrictions on transfer other than restrictions on transfer under this Warrant and under applicable state and federal securities laws. Subject to applicable restrictions on transfer, the issuance and delivery of this Warrant and the Warrant Shares issuable upon exercise or conversion of this Warrant are not subject to any preemptive or other similar rights or any liens or encumbrances except as specifically set forth in Company’s Certificate of Incorporation (“Certificate of Incorporation”) or this Warrant, except that the issuance of this Warrant will trigger an adjustment to the Conversion Price (as defined in the Company’s Certificate of Designation for its Series D Convertible Preferred Stock) per share applicable to shares of the Company’s Series D Convertible Preferred Stock. The offer, sale and issuance of the Warrant Shares, as contemplated by this Warrant, are exempt from the prospectus and registration requirements of applicable United States federal and state security laws, and neither Company nor any authorized agent acting on its behalf has taken or will take any action hereafter that would cause the loss of such exemption.

(v) No Conflict. The execution, delivery, and performance of this Warrant will not result in (a) any violation of, be in conflict with, or constitute a default under, with or without the passage of time or the giving of notice (1) any provision of Company’s Certificate of Incorporation or by-laws; (2) any provision of any judgment, decree, or order to which Company is a party, by which it is bound, or to which any of its material assets are subject; (3) any contract, obligation, or commitment to which Company is a party or by which it is bound; or (4) any statute, rule, or governmental regulation applicable to Company, or (b) the creation of any lien, charge or encumbrance upon any assets of Company.

(vi) Capitalization. The capitalization table of Company attached hereto as Annex A is complete and accurate as of the date hereof (after giving effect to the issuance of this Warrant) and reflects (a) all outstanding capital stock of Company and (b) all outstanding warrants, options, conversion privileges, preemptive rights or other rights or agreements to purchase or otherwise acquire or issue any equity securities or convertible securities of Company. Company has reserved 15,057,500 shares of Common Stock for issuance upon conversion of the Preferred Stock.

(vii) Warrant Price. The Warrant Price is no greater than the lowest price at which Company has issued Series F Convertible Preferred Stock to an unrelated third party in an arm's length transaction.

5. Legends.

(a) Legend. Each certificate representing the Warrant Shares shall be endorsed with substantially the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED (UNLESS SUCH TRANSFER IS TO AN AFFILIATE OF HOLDER) UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES ACT OF 1933, OR (IF REASONABLY REQUIRED BY COMPANY) AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

Company need not enter into its stock records a transfer of Warrant Shares unless the conditions specified in the foregoing legend are satisfied. Company may also instruct its transfer agent not to allow the transfer of any of the Warrant Shares unless the conditions specified in the foregoing legend are satisfied.

(b) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 5(a) of this Warrant shall be removed and Company shall issue a certificate without such legend to Holder if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) Holder provides to Company an opinion of counsel for Holder reasonably satisfactory to Company, a no-action letter or interpretive opinion of the staff of the Securities and Exchange Commission ("SEC") reasonably satisfactory to Company, or other evidence reasonably satisfactory to Company, to the effect that public sale, transfer or assignment of the Securities may be made without registration and without compliance with any restriction such as Rule 144.

6. Transfers of Warrant. In connection with any transfer by Holder of this Warrant, Company may require the transferee to provide Company with written representations and warranties that transferee is acquiring this Warrant and the shares of Preferred Stock to be issued upon exercise for investment purposes only and not with a view to any sale or distribution, and may require a legal opinion, in form and substance satisfactory to Company and its counsel, stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act and any applicable state securities laws; provided, that Company shall not require an opinion of counsel if the transfer is to an affiliate of Holder. Following any transfer of this Warrant, at the request of either Company or the transferee, the transferee shall surrender this Warrant to Company in exchange for a new warrant of like tenor and date, executed by Company. Upon any partial transfer, Company will also execute and deliver to Holder a new warrant of like tenor with respect to the portion of this Warrant not so transferred. Subject to the foregoing, this Warrant is transferable on the books of Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of Company.

7. Adjustment for Certain Events. The number and kind of securities purchasable upon the exercise of this Warrant and the Warrant Price shall be subject to adjustment from time to time upon the occurrence of certain events, as follows:

(a) Reclassification or Merger. In case of (i) any reclassification or change of securities of the class issuable upon exercise of this Warrant (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination), (ii) any merger of Company with or into another corporation (other than a merger with another corporation in which Company is the acquiring and the surviving corporation and which does not result in any reclassification or change of outstanding securities issuable upon exercise of this Warrant), or (iii) any sale of all or substantially all of the assets of Company, Company, or such successor or purchasing corporation, as the case may be, shall duly execute and deliver to Holder a new Warrant (in form and substance satisfactory to Holder of this Warrant), or Company shall make appropriate provision without the issuance of a new Warrant, so that Holder shall have the right to receive, at a total purchase price not to exceed that payable upon the exercise of the unexercised portion of this Warrant, and in lieu of the Warrant Shares theretofore issuable upon exercise or conversion of this Warrant, the kind and amount of shares of stock, other securities, money and property receivable upon such reclassification, change, merger or sale by a holder of the number of shares of Preferred Stock then purchasable under this Warrant, or in the case of such a merger or sale in which the consideration paid consists all or in part of assets other than securities of the successor or purchasing corporation, at the option of Holder, the securities of the successor or purchasing corporation having a value at the time of the transaction equivalent to the value of the Warrant Shares purchasable upon exercise of this Warrant at the time of the transaction. Any new Warrant shall provide for adjustments that shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 7. The provisions of this subparagraph (a) shall similarly apply to successive reclassifications, changes, mergers and transfers.

(b) Subdivision or Combination of Shares. If Company at any time while this Warrant remains outstanding and unexpired shall subdivide or combine its outstanding shares of Preferred Stock, the Warrant Price shall be proportionately decreased and the number of Warrant Shares issuable hereunder shall be proportionately increased in the case of a subdivision and the Warrant Price shall be proportionately increased and the number of Warrant Shares issuable hereunder shall be proportionately decreased in the case of a combination.

(c) Stock Dividends and Other Distributions. If Company at any time while this Warrant is outstanding and unexpired shall (i) pay a dividend with respect to Preferred Stock payable in Preferred Stock, then the Warrant Price shall be adjusted, from and after the date of determination of shareholders entitled to receive such dividend or distribution, to that price determined by multiplying the Warrant Price in effect immediately prior to such date of determination by a fraction (A) the numerator of which shall be the total number of shares of Preferred Stock outstanding immediately prior to such dividend or distribution, and (B) the denominator of which shall be the total number of shares of Preferred Stock outstanding immediately after such dividend or distribution; or (ii) make any other distribution with respect to Preferred Stock (except any distribution specifically provided for in Sections 7(a) and 7(b)), then, in each such case, provision shall be made by Company such that Holder shall receive upon exercise of this Warrant a proportionate share of any such dividend or distribution as though it were Holder of the Warrant Shares as of the record date fixed for the determination of the shareholders of Company entitled to receive such dividend or distribution.

(d) Adjustment of Number of Shares. Upon each adjustment in the Warrant Price, the number of Warrant Shares purchasable hereunder shall be adjusted, to the nearest whole share, to the product obtained by multiplying the number of Warrant Shares purchasable immediately prior to such adjustment in the Warrant Price by a fraction, the numerator of which shall be the Warrant Price immediately prior to such adjustment and the denominator of which shall be the Warrant Price immediately thereafter.

(e) Adjustment for Dilutive Issuance. The Warrant Price and the number of Warrant Shares issuable upon exercise of this Warrant or, if the Warrant Shares are Preferred Stock, the number of shares of Common Stock issuable upon conversion of the Warrant Shares, shall be subject to adjustment, from time to time in the manner set forth in Company's Certificate of Incorporation as if the Warrant Shares were issued and outstanding on and as of the date of any such required adjustment (but in no case shall a single set of circumstances resulting in an adjustment in accordance with the Company's Certificate of Incorporation result in a duplicative adjustment). The provisions set forth for the Warrant Shares in Company's Certificate of Incorporation relating to adjustment of the number of shares of Common Stock issuable upon conversion of the Warrant Shares in effect as of the date hereof may not be amended, modified or waived, without the prior written consent of Holder unless such amendment, modification or waiver affects the rights associated with the Warrant Shares in the same manner as such amendment, modification or waiver affects the rights associated with all other shares of the same series and class as the Warrant Shares. Subject to the foregoing, the Company may, subject to applicable law, amend its Certificate of Incorporation without the consent of Holder.

(f) Adjustment for Pay-to-Play Transaction. In the event that the Company's Certificate of Incorporation provides, or is amended to so provide, for the amendment or modification of the rights, preferences or privileges of the Preferred Stock, or the reclassification, conversion or exchange of the Preferred Stock, on account of the failure of a holder of the Preferred Stock to participate in an equity financing transaction (a "Pay-to-Play Provision"), such Pay-to-Play Provision shall not apply to the Holder and this Warrant shall remain exercisable for the same number and type of shares of equity securities for which it was exercisable immediately prior to such equity financing transaction.

8. Notice of Adjustments; Redemption. Whenever any Warrant Price or the kind or number of securities issuable under this Warrant shall be adjusted pursuant to Section 7 hereof, Company shall prepare a certificate signed by an officer of Company setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number or kind of shares issuable upon exercise of this Warrant after giving effect to such adjustment, and within thirty (30) days of such adjustment shall cause copies of such certificate to be delivered to Holder in accordance with Section 18 hereof.

9. Financial and Other Reports.

(a) Financial Statements. From time to time up to the earlier of the Expiration Date or the complete exercise of this Warrant, Company shall furnish to Holder, (i) as soon as available and in any event within 30 days after the end of each fiscal month, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Company and its Subsidiaries as of the end of such fiscal month and that portion of the fiscal year ending as of the close of such fiscal month, in a form acceptable to Holder and certified by Company's president, chief executive officer or chief financial officer, (ii) as soon as available and in any event within 45 days after the end of each fiscal quarter, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Company and its Subsidiaries as of the end of such fiscal quarter and that portion of the fiscal year ending as of the close of such fiscal quarter, in a form acceptable to Holder and certified by Company's president, chief executive officer or chief financial officer and (iii) as soon as available and in any event within one hundred and eighty (180) days after the end of each fiscal year, audited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Company and its Subsidiaries as of the end of such fiscal year, together with a report of an independent certified public accounting firm reasonably acceptable to Holder, which report shall contain an unqualified opinion stating that such audited financial statements fairly present in all material respects the financial position of Company and its Subsidiaries for the periods indicated therein in conformity with GAAP applied on a basis consistent with prior years without qualification as to the scope of the audit or as to going concern and without any similar qualification. All such financial statements are to be prepared using GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year end audit adjustments).

(b) Capitalization Table. Within 30 days of the end of each calendar quarter, if the Company is a private company, Company shall also deliver to Holder an updated capitalization table of Company in the form attached hereto as Annex A.

10. Reserved.

11. No Fractional Shares. No fractional share of Preferred Stock will be issued in connection with any exercise or conversion hereunder, but in lieu of such fractional share Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

12. Charges, Taxes and Expenses. Issuance of certificates for shares of Preferred Stock upon the exercise or conversion of this Warrant shall be made without charge to Holder for any United States or state of the United States documentary stamp tax or other incidental expense with respect to the issuance of such certificate, all of which taxes and expenses shall be paid by Company, and such certificates shall be issued in the name of Holder.

13. No Shareholder Rights Until Exercise. Except as expressly provided herein, this Warrant does not entitle Holder to any voting rights or other rights as a shareholder of Company prior to the exercise hereof.

14. Registry of Warrant. Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of Company, and Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

15. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

16. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of Company.

(c) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(d) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of New York, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or a legal holiday.

17. No Impairment. Company will not, by amendment of its Certificate of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of Holder hereof against impairment. Without limiting the breadth of the foregoing, Company will not cause the Preferred Stock to be converted into Common Stock unless such conversion is effected as part of the conversion of all Company’s outstanding series of preferred stock and other senior securities into Common Stock.

18. Addresses. All notices or other communications given in connection with this Warrant shall be in writing, shall be addressed to the parties at their respective addresses set forth below (unless and until a different address

may be specified in a written notice to the other party delivered in accordance with this Section 18), and shall be deemed given (a) on the date of receipt if delivered by hand, (b) on the next business day after being sent by a nationally-recognized overnight courier, or (c) on the fourth business day after being sent by registered or certified mail, return receipt requested and postage prepaid.

If to Company:	Amedica Corporation 1885 West 2100 South Salt Lake City, UT 84119 Attn: Gordon G. Esplin, CPA
If to Holder:	GE Capital Equity Investments, Inc. c/o GE Healthcare Financial Services, Inc. Two Bethesda Metro Center, Suite 600 Bethesda, Maryland 20814 Attn: Senior Vice President of Risk – Life Science Finance
With copies to:	GE Healthcare Financial Services, Inc. Two Bethesda Metro Center, Suite 600 Bethesda, Maryland 20814 Attn: General Counsel and GE Equity 201 Merritt 7 Norwalk, Connecticut 06851 Attn: Team Leader –HFS/Amedica Corporation

19. WAIVER OF JURY TRIAL. EACH OF THE PARTIES HERETO HEREBY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS WARRANT OR THE WARRANT SHARES.

20. GOVERNING LAW. THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAW PRINCIPLES OF SUCH STATE).

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, Company has caused this Warrant to be executed by its officer thereunto duly authorized.

AMEDICA CORPORATION

By: /s/ Eric Olson
Name: Eric Olson
Title: CEO

Warrant (GE) – signature page

NOTICE OF EXERCISE

To:
Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attn: [ ]

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Series F Convertible Preferred Stock (the "Preferred Stock") of Amedica Corporation (the "Company"), pursuant to the terms of the Stock Purchase Warrant dated December 17, 2012 (the "Warrant").

2. Holder exercises its rights under the Warrant as set forth below:

   ( ) Holder elects to purchase shares of Preferred Stock as provided in Section 3(a) and tenders herewith a check in the amount of $ as payment of the purchase price.

   ( ) Holder elects to convert the purchase rights into shares of Preferred Stock as provided in Section 3(b) of the Warrant.

3. Holder surrenders the Warrant with this Notice of Exercise.

Holder represents that it is acquiring the aforesaid shares of Preferred Stock for investment and not with a view to or for resale in connection with distribution and it has no present intention of distributing or reselling the shares.

Please issue a certificate representing the shares of the Preferred Stock in the name of Holder or in such other name as is specified below:

Name: ______________________________

Address: ______________________________

Taxpayer I.D.: ______________________________

[NAME OF HOLDER]

By: ______________________________
Name: ______________________________
Title: Duly Authorized Signatory

Date: , 20

ANNEX A

CAPITALIZATION TABLE

[SEE ATTACHED]

Amedica Corporation
Capital Structure
December 17, 2012

	Capital Stock Shares Outstanding	Common Stock Equivalent Outstanding- Pro Forma
Convertible preferred stock:		
Series A	5,365,398	5,365,398
Series A-1	10,390,463	15,585,695
Series B	1,944,147	2,002,471
Series B-1	3,299,141	4,948,712
Series C	6,682,562	7,283,993
Series C-1	4,275,000	6,669,000
Series D	7,978,800	9,654,348
Series D-1	6,145,667	9,833,067
Series E	15,201,716	15,961,802
Series F	14,887,500	14,887,500
Total convertible preferred stock	76,170,394	92,191,985
Convertible Debt Shares	—	—
Common stock	9,131,473	9,131,473
Total shares outstanding	85,301,867	101,323,458
Options	7,400,000	7,400,000
Preferred C stock warrants	1,203,750	1,203,750
Preferred D stock warrants	253,290	296,349
Preferred E stock warrants	617,691	617,691
Preferred F stock warrants	270,000	270,000
Common Stock Warrants		
Attached to Convertible Debt	7,443,750	7,443,750
CC for Convertible Debt	1,483,500	1,483,500
CC for Series E	568,678	568,678
To Distributors	126,000	126,000
Other	100,000	100,000
Total fully diluted shares outstanding	104,768,526	120,833,176

Exhibit 4.11

NEITHER THIS WARRANT NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THIS WARRANT HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUBJECT TO SECTION 6 BELOW, AND EXCEPT IN COMPLIANCE WITH RULE 144 UNDER SAID ACT, NO SALE OR DISPOSITION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL FOR HOLDER, SATISFACTORY TO COMPANY, THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT OR RECEIPT OF A NO-ACTION LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION.

WARRANT TO PURCHASE 113,022 SHARES OF SERIES F CONVERTIBLE PREFERRED STOCK

December 17, 2012

THIS CERTIFIES THAT, for value received, Zions First National Bank ("Holder"), a national bank, is entitled to subscribe for and purchase: One Hundred Thirteen Thousand Twenty Two (113,022) shares of fully paid and nonassessable shares of Series F Convertible Preferred Stock of Amedica Corporation, a Delaware corporation ("Company"), at the Warrant Price (as hereinafter defined), subject to the provisions and upon the terms and conditions hereinafter set forth. As used herein, the term "Preferred Stock" shall mean Company's presently authorized Series F Convertible Preferred Stock, $0.01 par value per share, and any stock into which such Series F Convertible Preferred Stock may hereafter be converted or exchanged and the term "Warrant Shares" shall mean the shares of Preferred Stock which Holder may acquire pursuant to this Warrant and any other shares of stock into which such shares of Preferred Stock may hereafter be converted or exchanged.

1. Warrant Price. The "Warrant Price" shall initially be Two and 00/100 dollars ($2.00) per share, subject to adjustment as provided in Section 7 below.

2. Conditions to Exercise. The purchase right represented by this Warrant may be exercised at any time, or from time to time, in whole or in part during the term commencing on the date hereof and ending at 5:00 P.M. (New York City time) on the tenth anniversary of the date of this Warrant (the "Expiration Date").

3. Method of Exercise or Conversion; Payment; Issuance of Shares; Issuance of New Warrant.

(a) Cash Exercise. Subject to Section 2 hereof, the purchase right represented by this Warrant may be exercised by Holder hereof, in whole or in part, by the surrender of the original of this Warrant (together with a duly executed Notice of Exercise in substantially the form attached hereto) at the principal office of Company (as set forth in Section 18 below) and by payment to Company, by certified or bank check, or wire transfer of immediately available funds, of an amount equal to the then applicable Warrant Price per share multiplied by the number of Warrant Shares then being purchased. In the event of any exercise of the rights represented by this Warrant, certificates for the shares of stock so purchased shall be in the name of, and delivered to, Holder hereof, or as such Holder may direct (subject to the terms of transfer contained herein and upon payment by such Holder hereof of any applicable transfer taxes). Such delivery shall be made within 30 days after exercise of this Warrant and at Company's expense and, unless this Warrant has been fully exercised or expired, a new Warrant having terms and conditions substantially identical to this Warrant and representing the portion of the Warrant Shares, if any, with respect to which this Warrant shall not have been exercised, shall also be issued to Holder hereof within 30 days after exercise of this Warrant.

(b) Conversion. In lieu of exercising this Warrant as specified in Section 3(a), Holder may from time to time convert this Warrant, in whole or in part, into Warrant Shares by surrender of the original of this Warrant (together with a duly executed Notice of Exercise in substantially the form attached hereto) at the principal office of Company, in which event Company shall issue to Holder the number of Warrant Shares computed using the following formula:

$$X = \frac{Y(A-B)}{A}$$

Where:

X = the number of Warrant Shares to be issued to Holder.

Y = the number of Warrant Shares requested to be purchased under this Warrant (at the date of such calculation).

A = the Fair Market Value of one share of Company's Preferred Stock (at the date of such calculation).

B = Warrant Price (as adjusted to the date of such calculation).

(c) Fair Market Value. For purposes of this Section 3, Fair Market Value of one share of Company's Preferred Stock shall mean:

(i) In the event of an exercise in connection with the initial underwritten public offering of shares of common stock of the Company ("Common Stock" pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Act"), the offering price at which the underwriters initially sell Common Stock to the public multiplied by the number of shares of Common Stock into which each share of Preferred Stock is then convertible; or

(ii) The average of the closing bid and asked prices of Common Stock quoted in the Over-The-Counter Market Summary, or the last reported sale price quoted on the Nasdaq Stock Market or on any other exchange on which the Common Stock is listed, whichever is applicable, as published in the Eastern Edition of the Wall Street Journal for the five (5) trading days prior to the date of determination of Fair Market Value, multiplied by the number of shares of Common Stock into which each share of Preferred Stock is then convertible; or

(iii) In the event of an exercise in connection with a merger, acquisition or other consolidation in which Company is not the surviving entity, the value to be received per share of Preferred Stock by all holders of the Preferred Stock in such transaction as determined in the reasonable good faith judgment of Company's Board of Directors; or

(iv) In any other instance, the value as determined in the reasonable good faith judgment of Company's Board of Directors.

In the event of Section 3(c)(iii) or 3(c)(iv) above, Company's Board of Directors shall prepare a certificate, to be signed by an authorized officer of Company, setting forth in reasonable detail the basis for and method of determination of the per share Fair Market Value of the Preferred Stock. In the event of Section 3(c)(iii) or 3(c)(iv) above, the Board of Directors will also certify to Holder that this per share Fair Market Value will be applicable to all holders of Company's Preferred Stock. Such certifications must be made to Holder, in the event of Section 3(c)(iii) above, at least ten (10) business days prior to the proposed effective date of the merger, acquisition or other consolidation, and in the event of Section 3(c)(iv), promptly after exercise of this Warrant.

(d) Automatic Exercise. To the extent this Warrant is not previously exercised, it shall be deemed to have been automatically converted in accordance with Sections 3(b) and 3(c) hereof (even if not surrendered) as of immediately before its expiration, involuntary termination or cancellation (including, without limitation, pursuant to Section 3(e)(ii)) if the then-Fair Market Value of a Warrant Share exceeds the then-Warrant Price, unless Holder notifies Company in writing to the contrary prior to such automatic exercise.

(e) Treatment of Warrant Upon Acquisition of Company.

(i) Certain Definitions. For the purpose of this Warrant: "Acquisition" means any sale, license, assignment, or other disposition of all or substantially all of the assets of Company, or any reorganization, consolidation, or merger of Company, or sale of outstanding Company securities

by holders thereof, where the holders of Company's securities as of immediately before the transaction beneficially own less than a majority of the outstanding voting securities of the successor or surviving entity as of immediately after the transaction. For purposes of this Section 3(e), "Affiliate" shall mean any person or entity that owns or controls directly or indirectly ten percent (10%) or more of the voting capital stock of Company, any person or entity that controls or is controlled by or is under common control with such persons or entities, and each of such person's or entity's officers, directors, joint venturers or partners, as applicable. Company shall provide Holder with written notice of any proposed Acquisition not later than ten (10) business days prior to the closing thereof setting forth the material terms and conditions thereof, and shall provide Holder with copies of the draft transaction agreements and other documents in connection therewith and with such other information respecting such proposed Acquisition as may reasonably be requested by Holder.

(ii) Acquisition for Cash. Holder agrees that, in the event of an Acquisition in which the sole consideration is cash, this Warrant shall be automatically exercised (or terminate) as provided in Section 3(d) on and as of the closing of such Acquisition to the extent not previously exercised.

(iii) Asset Sale. In the event of an Acquisition that is an arms length sale of all or substantially all of Company's assets (and only its assets) to a third party that is not an Affiliate of Company (a "True Asset Sale"), Holder may either (a) exercise its conversion or purchase right under this Warrant and such exercise will be deemed effective immediately prior to the consummation of such Acquisition, or (b) permit the Warrant to continue until the Expiration Date if Company continues as a going concern following the closing of any such True Asset Sale.

(iv) Assumption of Warrant. Upon the closing of any Acquisition other than as particularly described in Section 3(e)(ii) or 3(e)(iii) above, Company shall, unless Holder requests otherwise, cause the surviving or successor entity to assume this Warrant and the obligations of Company hereunder, and this Warrant shall, from and after such closing, be exercisable for the same class, number and kind of securities, cash and other property as would have been paid for or in respect of the shares issuable (as of immediately prior to such closing) upon exercise in full hereof as if such shares had been issued and outstanding on and as of such closing, at an aggregate Warrant Price equal to the aggregate Warrant Price in effect as of immediately prior to such closing; and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant.

4. Representations and Warranties of Holder and Company.

(a) Representations and Warranties by Holder. Holder represents and warrants to Company as of the date hereof with respect to this Warrant as follows:

(i) Evaluation. Holder has substantial experience in evaluating and investing in private placement transactions of securities of companies similar to Company so that Holder is capable of evaluating the merits and risks of its investment in Company and has the capacity to protect its interests.

(ii) Resale. Except for transfers to an affiliate of Holder, Holder is acquiring this Warrant and the Warrant Shares issuable upon exercise of this Warrant (collectively the "Securities") for investment for its own account and not with a view to, or for resale in connection with, any distribution thereof. Holder understands that the Securities have not been registered under Act by reason of a specific exemption from the registration provisions of the Act and such Securities have not been registered or qualified under any applicable state securities laws, each of which depends upon, among other things, the bona fide nature of the investment intent as expressed herein.

(iii) Rule 144. Holder acknowledges that the Securities must be held indefinitely unless subsequently registered under the Act or an exemption from such registration is available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

(iv) Accredited Investor. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

(v) Opportunity To Discuss. Holder has had an opportunity to discuss Company's business, management and financial affairs with its management and an opportunity to review Company's facilities. Holder understands that such discussions, as well as the written information issued by Company, were intended to describe the aspects of Company's business and prospects which Company believes to be material but were not necessarily a thorough or exhaustive description.

(b) Representations and Warranties by Company. Company hereby represents and warrants to Holder that the statements in the following paragraphs of this Section 4(b) are true and correct as of the date hereof.

(i) Corporate Organization and Authority. Company (a) is a corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction of its organization, (b) has the corporate power and authority to own and operate its properties and to carry on its business as now conducted and as proposed to be conducted; and (c) is qualified as a foreign corporation in all jurisdictions where such qualification is required.

(ii) Corporate Power. Company has all requisite legal and corporate power and authority to execute, issue and deliver this Warrant, to issue the Warrant Shares issuable upon exercise or conversion of this Warrant, and to carry out and perform its obligations under this Warrant and any related agreements.

(iii) Authorization; Enforceability. All corporate action on the part of Company, its officers, directors and shareholders necessary for the authorization, execution, delivery and performance of its obligations under this Warrant and for the authorization, issuance and delivery of this Warrant and the Warrant Shares issuable upon exercise of this Warrant has been taken and this Warrant constitutes the legally binding and valid obligation of Company enforceable in accordance with its terms.

(iv) Valid Issuance of Warrant and Warrant Shares. This Warrant has been validly issued and is free of restrictions on transfer other than restrictions on transfer set forth herein and under applicable state and federal securities laws. The Warrant Shares issuable upon exercise or conversion of this Warrant, when issued, sold and delivered in accordance with the terms of this Warrant for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable, and will be free of restrictions on transfer other than restrictions on transfer under this Warrant and under applicable state and federal securities laws. Subject to applicable restrictions on transfer, the issuance and delivery of this Warrant and the Warrant Shares issuable upon exercise or conversion of this Warrant are not subject to any preemptive or other similar rights or any liens or encumbrances except as specifically set forth in Company's Certificate of Incorporation ("Certificate of Incorporation") or this Warrant, except that the issuance of this Warrant will trigger an adjustment to the Conversion Price (as defined in the Company's Certificate of Designation for its Series D Convertible Preferred Stock) per share applicable to shares of the Company's Series D Convertible Preferred Stock. The offer, sale and issuance of the Warrant Shares, as contemplated by this Warrant, are exempt from the prospectus and registration requirements of applicable United States federal and state security laws, and neither Company nor any authorized agent acting on its behalf has taken or will take any action hereafter that would cause the loss of such exemption.

(v) No Conflict. The execution, delivery, and performance of this Warrant will not result in (a) any violation of, be in conflict with, or constitute a default under, with or without the passage of time or the giving of notice (1) any provision of Company's Certificate of Incorporation or by-laws; (2) any provision of any judgment, decree, or order to which Company is a party, by which it is bound, or to which any of its material assets are subject; (3) any contract, obligation, or commitment to which Company is a party or by which it is bound; or (4) any statute, rule, or governmental regulation applicable to Company, or (b) the creation of any lien, charge or encumbrance upon any assets of Company.

(vi) Capitalization. The capitalization table of Company attached hereto as Annex A is complete and accurate as of the date hereof (after giving effect to the issuance of this Warrant) and reflects (a) all outstanding capital stock of Company and (b) all outstanding warrants, options, conversion privileges, preemptive rights or other rights or agreements to purchase or otherwise acquire or issue any equity securities or convertible securities of Company. Company has reserved 15,057,500 shares of Common Stock for issuance upon conversion of the Preferred Stock.

(vii) Warrant Price. The Warrant Price is no greater than the lowest price at which Company has issued Series F Convertible Preferred Stock to an unrelated third party in an arm's length transaction.

5. Legends.

(a) Legend. Each certificate representing the Warrant Shares shall be endorsed with substantially the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND MAY NOT BE TRANSFERRED (UNLESS SUCH TRANSFER IS TO AN AFFILIATE OF HOLDER) UNLESS COVERED BY AN EFFECTIVE REGISTRATION STATEMENT UNDER SAID ACT, A "NO ACTION" LETTER FROM THE SECURITIES AND EXCHANGE COMMISSION WITH RESPECT TO SUCH TRANSFER, A TRANSFER MEETING THE REQUIREMENTS OF RULE 144 OF THE SECURITIES ACT OF 1933, OR (IF REASONABLY REQUIRED BY COMPANY) AN OPINION OF COUNSEL SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY SUCH TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

Company need not enter into its stock records a transfer of Warrant Shares unless the conditions specified in the foregoing legend are satisfied. Company may also instruct its transfer agent not to allow the transfer of any of the Warrant Shares unless the conditions specified in the foregoing legend are satisfied.

(b) Removal of Legend and Transfer Restrictions. The legend relating to the Act endorsed on a certificate pursuant to paragraph 5(a) of this Warrant shall be removed and Company shall issue a certificate without such legend to Holder if (i) the Securities are registered under the Act and a prospectus meeting the requirements of Section 10 of the Act is available or (ii) Holder provides to Company an opinion of counsel for Holder reasonably satisfactory to Company, a no-action letter or interpretive opinion of the staff of the Securities and Exchange Commission ("SEC") reasonably satisfactory to Company, or other evidence reasonably satisfactory to Company, to the effect that public sale, transfer or assignment of the Securities may be made without registration and without compliance with any restriction such as Rule 144.

6. Transfers of Warrant. In connection with any transfer by Holder of this Warrant, Company may require the transferee to provide Company with written representations and warranties that transferee is acquiring this Warrant and the shares of Preferred Stock to be issued upon exercise for investment purposes only and not with a view to any sale or distribution, and may require a legal opinion, in form and substance satisfactory to Company and its counsel, stating that such transfer is exempt from the registration and prospectus delivery requirements of the Act and any applicable state securities laws; provided, that Company shall not require an opinion of counsel if the transfer is to an affiliate of Holder. Following any transfer of this Warrant, at the request of either Company or the transferee, the transferee shall surrender this Warrant to Company in exchange for a new warrant of like tenor and date, executed by Company. Upon any partial transfer, Company will also execute and deliver to Holder a new warrant of like tenor with respect to the portion of this Warrant not so transferred. Subject to the foregoing, this Warrant is transferable on the books of Company at its principal office by the registered Holder hereof upon surrender of this Warrant properly endorsed. Holder shall not have any right to transfer any portion of this Warrant to any direct competitor of Company.

7. Adjustment for Certain Events. The number and kind of securities purchasable upon the exercise of this Warrant and the Warrant Price shall be subject to adjustment from time to time upon the occurrence of certain events, as follows:

(a) Reclassification or Merger. In case of (i) any reclassification or change of securities of the class issuable upon exercise of this Warrant (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination), (ii) any merger of Company with or into another corporation (other than a merger with another corporation in which Company is the acquiring and the surviving corporation and which does not result in any reclassification or change of outstanding securities issuable upon exercise of this Warrant), or (iii) any sale of all or substantially all of the assets of Company, Company, or such successor or purchasing corporation, as the case may be, shall duly execute and deliver to Holder a new Warrant (in form and substance satisfactory to Holder of this Warrant), or Company shall make appropriate provision without the issuance of a new Warrant, so that Holder shall have the right to receive, at a total purchase price not to exceed that payable upon the exercise of the unexercised portion of this Warrant, and in lieu of the Warrant Shares theretofore issuable upon exercise or conversion of this Warrant, the kind and amount of shares of stock, other securities, money and property receivable upon such reclassification, change, merger or sale by a holder of the number of shares of Preferred Stock then purchasable under this Warrant, or in the case of such a merger or sale in which the consideration paid consists all or in part of assets other than securities of the successor or purchasing corporation, at the option of Holder, the securities of the successor or purchasing corporation having a value at the time of the transaction equivalent to the value of the Warrant Shares purchasable upon exercise of this Warrant at the time of the transaction. Any new Warrant shall provide for adjustments that shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 7. The provisions of this subparagraph (a) shall similarly apply to successive reclassifications, changes, mergers and transfers.

(b) Subdivision or Combination of Shares. If Company at any time while this Warrant remains outstanding and unexpired shall subdivide or combine its outstanding shares of Preferred Stock, the Warrant Price shall be proportionately decreased and the number of Warrant Shares issuable hereunder shall be proportionately increased in the case of a subdivision and the Warrant Price shall be proportionately increased and the number of Warrant Shares issuable hereunder shall be proportionately decreased in the case of a combination.

(c) Stock Dividends and Other Distributions. If Company at any time while this Warrant is outstanding and unexpired shall (i) pay a dividend with respect to Preferred Stock payable in Preferred Stock, then the Warrant Price shall be adjusted, from and after the date of determination of shareholders entitled to receive such dividend or distribution, to that price determined by multiplying the Warrant Price in effect immediately prior to such date of determination by a fraction (A) the numerator of which shall be the total number of shares of Preferred Stock outstanding immediately prior to such dividend or distribution, and (B) the denominator of which shall be the total number of shares of Preferred Stock outstanding immediately after such dividend or distribution; or (ii) make any other distribution with respect to Preferred Stock (except any distribution specifically provided for in Sections 7(a) and 7(b)), then, in each such case, provision shall be made by Company such that Holder shall receive upon exercise of this Warrant a proportionate share of any such dividend or distribution as though it were Holder of the Warrant Shares as of the record date fixed for the determination of the shareholders of Company entitled to receive such dividend or distribution.

(d) Adjustment of Number of Shares. Upon each adjustment in the Warrant Price, the number of Warrant Shares purchasable hereunder shall be adjusted, to the nearest whole share, to the product obtained by multiplying the number of Warrant Shares purchasable immediately prior to such adjustment in the Warrant Price by a fraction, the numerator of which shall be the Warrant Price immediately prior to such adjustment and the denominator of which shall be the Warrant Price immediately thereafter.

(e) Adjustment for Dilutive Issuance. The Warrant Price and the number of Warrant Shares issuable upon exercise of this Warrant or, if the Warrant Shares are Preferred Stock, the number of shares of Common Stock issuable upon conversion of the Warrant Shares, shall be subject to adjustment, from time to time in the manner set forth in Company's Certificate of Incorporation as if the Warrant Shares were issued and outstanding on and as of the date of any such required adjustment (but in no case shall a single set of circumstances resulting in an adjustment in accordance with the Company's Certificate of Incorporation result in a duplicative adjustment). The provisions set forth for the Warrant Shares in Company's Certificate of Incorporation relating to adjustment of the number of shares of Common Stock issuable upon conversion of the Warrant Shares in effect as of the date hereof may not be amended, modified or waived, without the prior written consent of Holder unless such amendment, modification or waiver affects the rights associated with the Warrant Shares in the same manner as such amendment, modification or waiver affects the rights associated with all other shares of the same series and class as the Warrant Shares. Subject to the foregoing, the Company may, subject to applicable law, amend its Certificate of Incorporation without the consent of Holder.

(f) Adjustment for Pay-to-Play Transaction. In the event that the Company's Certificate of Incorporation provides, or is amended to so provide, for the amendment or modification of the rights, preferences or privileges of the Preferred Stock, or the reclassification, conversion or exchange of the Preferred Stock, on account of the failure of a holder of the Preferred Stock to participate in an equity financing transaction (a "Pay-to-Play Provision"), such Pay-to-Play Provision shall not apply to the Holder and this Warrant shall remain exercisable for the same number and type of shares of equity securities for which it was exercisable immediately prior to such equity financing transaction.

8. Notice of Adjustments; Redemption. Whenever any Warrant Price or the kind or number of securities issuable under this Warrant shall be adjusted pursuant to Section 7 hereof, Company shall prepare a certificate signed by an officer of Company setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Warrant Price and number or kind of shares issuable upon exercise of this Warrant after giving effect to such adjustment, and within thirty (30) days of such adjustment shall cause copies of such certificate to be delivered to Holder in accordance with Section 18 hereof.

9. Financial and Other Reports.

(a) Financial Statements. From time to time up to the earlier of the Expiration Date or the complete exercise of this Warrant, Company shall furnish to Holder, (i) as soon as available and in any event within 30 days after the end of each fiscal month, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Company and its Subsidiaries as of the end of such fiscal month and that portion of the fiscal year ending as of the close of such fiscal month, in a form acceptable to Holder and certified by Company's president, chief executive officer or chief financial officer, (ii) as soon as available and in any event within 45 days after the end of each fiscal quarter, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Company and its Subsidiaries as of the end of such fiscal quarter and that portion of the fiscal year ending as of the close of such fiscal quarter, in a form acceptable to Holder and certified by Company's president, chief executive officer or chief financial officer and (iii) as soon as available and in any event within one hundred and eighty (180) days after the end of each fiscal year, audited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Company and its Subsidiaries as of the end of such fiscal year, together with a report of an independent certified public accounting firm reasonably acceptable to Holder, which report shall contain an unqualified opinion stating that such audited financial statements fairly present in all material respects the financial position of Company and its Subsidiaries for the periods indicated therein in conformity with GAAP applied on a basis consistent with prior years without qualification as to the scope of the audit or as to going concern and without any similar qualification. All such financial statements are to be prepared using GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year end audit adjustments).

(b) Capitalization Table. Within 30 days of the end of each calendar quarter, if the Company is a private company, Company shall also deliver to Holder an updated capitalization table of Company in the form attached hereto as Annex A.

10. Reserved.

11. No Fractional Shares. No fractional share of Preferred Stock will be issued in connection with any exercise or conversion hereunder, but in lieu of such fractional share Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

12. Charges, Taxes and Expenses. Issuance of certificates for shares of Preferred Stock upon the exercise or conversion of this Warrant shall be made without charge to Holder for any United States or state of the United States documentary stamp tax or other incidental expense with respect to the issuance of such certificate, all of which taxes and expenses shall be paid by Company, and such certificates shall be issued in the name of Holder.

13. No Shareholder Rights Until Exercise. Except as expressly provided herein, this Warrant does not entitle Holder to any voting rights or other rights as a shareholder of Company prior to the exercise hereof.

14. Registry of Warrant. Company shall maintain a registry showing the name and address of the registered Holder of this Warrant. This Warrant may be surrendered for exchange or exercise, in accordance with its terms, at such office or agency of Company, and Company and Holder shall be entitled to rely in all respects, prior to written notice to the contrary, upon such registry.

15. Loss, Theft, Destruction or Mutilation of Warrant. Upon receipt by Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft, or destruction, of indemnity reasonably satisfactory to it, and, if mutilated, upon surrender and cancellation of this Warrant, Company will execute and deliver a new Warrant, having terms and conditions substantially identical to this Warrant, in lieu hereof.

16. Miscellaneous.

(a) Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by Company on the date hereof.

(b) Successors. This Warrant shall be binding upon any successors or assigns of Company.

(c) Headings. The headings used in this Warrant are used for convenience only and are not to be considered in construing or interpreting this Warrant.

(d) Saturdays, Sundays, Holidays. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday or a Sunday or shall be a legal holiday in the State of New York, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or a legal holiday.

17. No Impairment. Company will not, by amendment of its Certificate of Incorporation or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of Holder hereof against impairment. Without limiting the breadth of the foregoing, Company will not cause the Preferred Stock to be converted into Common Stock unless such conversion is effected as part of the conversion of all Company's outstanding series of preferred stock and other senior securities into Common Stock.

18. Addresses. All notices or other communications given in connection with this Warrant shall be in writing, shall be addressed to the parties at their respective addresses set forth below (unless and until a different address

may be specified in a written notice to the other party delivered in accordance with this Section 18), and shall be deemed given (a) on the date of receipt if delivered by hand, (b) on the next business day after being sent by a nationally-recognized overnight courier, or (c) on the fourth business day after being sent by registered or certified mail, return receipt requested and postage prepaid.

If to Company:	Amedica Corporation 1885 West 2100 South Salt Lake City, UT 84119 Attn: Gordon G. Esplin, CPA
If to Holder:	GE Capital Equity Investments, Inc. c/o GE Healthcare Financial Services, Inc. Two Bethesda Metro Center, Suite 600 Bethesda, Maryland 20814 Attn: Senior Vice President of Risk – Life Science Finance
With copies to:	GE Healthcare Financial Services, Inc. Two Bethesda Metro Center, Suite 600 Bethesda, Maryland 20814 Attn: General Counsel and GE Equity 201 Merritt 7 Norwalk, Connecticut 06851 Attn: Team Leader –HFS/Amedica Corporation

19. WAIVER OF JURY TRIAL. EACH OF THE PARTIES HERETO HEREBY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS WARRANT OR THE WARRANT SHARES.

20. GOVERNING LAW. THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAW PRINCIPLES OF SUCH STATE).

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, Company has caused this Warrant to be executed by its officer thereunto duly authorized.

AMEDICA CORPORATION

By: /s/ Eric Olson
Name: Eric Olson
Title: CEO

Warrant (Zion) – signature page

NOTICE OF EXERCISE

To:
Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attn: [ ]

1. The undersigned Warrantholder ("Holder") elects to acquire shares of the Series F Convertible Preferred Stock (the "Preferred Stock") of Amedica Corporation (the "Company"), pursuant to the terms of the Stock Purchase Warrant dated December 17, 2012 (the "Warrant").

2. Holder exercises its rights under the Warrant as set forth below:

   ( ) Holder elects to purchase shares of Preferred Stock as provided in Section 3(a) and tenders herewith a check in the amount of $ as payment of the purchase price.

   ( ) Holder elects to convert the purchase rights into shares of Preferred Stock as provided in Section 3(b) of the Warrant.

3. Holder surrenders the Warrant with this Notice of Exercise.

Holder represents that it is acquiring the aforesaid shares of Preferred Stock for investment and not with a view to or for resale in connection with distribution and it has no present intention of distributing or reselling the shares.

Please issue a certificate representing the shares of the Preferred Stock in the name of Holder or in such other name as is specified below:

Name: ______________________

Address: ______________________

Taxpayer I.D.: ______________________

[NAME OF HOLDER]

By: ______________________

Name: ______________________

Title: Duly Authorized Signatory

Date: , 20

ANNEX A

CAPITALIZATION TABLE

[SEE ATTACHED]

Amedica Corporation
Capital Structure
December 17, 2012

	Capital Stock Shares Outstanding	Common Stock Equivalent Outstanding-Pro Forma
Convertible preferred stock:		
Series A	5,365,398	5,365,398
Series A-1	10,390,463	15,585,695
Series B	1,944,147	2,002,471
Series B-1	3,299,141	4,948,712
Series C	6,682,562	7,283,993
Series C-1	4,275,000	6,669,000
Series D	7,978,800	9,654,348
Series D-1	6,145,667	9,833,067
Series E	15,201,716	15,961,802
Series F	14,887,500	14,887,500
Total convertible preferred stock	76,170,394	92,191,985
Convertible Debt Shares	—	—
Common stock	9,131,473	9,131,473
Total shares outstanding	85,301,867	101,323,458
Options	7,400,000	7,400,000
Preferred C stock warrants	1,203,750	1,203,750
Preferred D stock warrants	253,290	296,349
Preferred E stock warrants	617,691	617,691
Preferred F stock warrants	270,000	270,000
Common Stock Warrants		
Attached to Convertible Debt	7,443,750	7,443,750
CC for Convertible Debt	1,483,500	1,483,500
CC for Series E	568,678	568,678
To Distributors	126,000	126,000
Other	100,000	100,000
Total fully diluted shares outstanding	104,768,526	120,833,176

Exhibit 4.12

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION WITH RESPECT THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS. THERE IS NO AND THERE IS NOT EXPECTED TO BE A PUBLIC MARKET FOR THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF. INVESTORS SHOULD BE AWARE THAT THEY WILL BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME.

WARRANT TO PURCHASE

SHARES OF COMMON STOCK OF

AMEDICA CORPORATION

Warrant No. Issue Date: , 2011

This certifies that, for value received, (the "Holder"), is entitled to purchase from Amedica Corporation, a Delaware corporation with offices at 1885 West 2100 South, Salt Lake City, UT 84119 (the "Company"), ( ) shares of the Company's common stock, $0.01 par value per share ("Common Stock"), as such number and class of securities may be adjusted in accordance with the terms of Section 4 below, for the Stated Purchase Price (defined below), at any time up to and including 5:00 p.m. (New York City time) on the Warrant Expiration Date (as defined below) in accordance with the terms hereof. "Stated Purchase Price" shall mean the purchase price to be paid upon exercise of this Warrant in accordance with the terms hereof, which price initially shall be $2.00 per share of Common Stock. The Stated Purchase Price shall be subject to adjustment from time to time pursuant to the provisions of Section 4 below. "Warrant Expiration Date" means 5:00 p.m., New York City time, on the third anniversary of the date hereof. If pursuant to the above the Warrant Expiration Date would be a Saturday, Sunday or legal holiday in the State of Utah, then the Warrant Expiration Date shall be the next succeeding date that is not a Saturday, Sunday or legal holiday.

1. Exercise.

(a) Manner of Exercise. This Warrant may be exercised at any time or from time to time for all or any part of the number of shares of Common Stock (or other securities) then purchasable upon its exercise (the "Shares"); provided, however, that this Warrant shall be void and all rights represented hereby shall cease unless exercised before the end of the Warrant Expiration Date. In order to exercise this Warrant, in whole or in part, Holder will deliver to the Company at its principal executive offices, or at such other office as the Company may designate by notice in writing, (i) this Warrant, (ii) a written notice of Holder's election to exercise this Warrant substantially in the form of Exhibit A attached hereto (the "Notice of Exercise"), and

(iii) any documents required pursuant to Section 7 hereof, and shall pay to the Company in cash, by a certified or cashier's check drawn on a United States Bank made payable to the order of the Company, or by wire transfer of funds to a bank account designated by the Company, an amount equal to the aggregate Stated Purchase Price for all Shares as to which this Warrant is exercised.

(b) Net Exercise.

(1) In lieu of exercising this Warrant by payment in cash, or by check or wire transfer, the Holder may elect to receive Shares equal to the value of this Warrant (or the portion thereof being exercised), at any time after the date hereof and before the end of the Warrant Expiration Date, by surrender of this Warrant at the principal executive office of the Company, together with the Notice of Exercise in the form annexed hereto, in which event the Company will issue to the Holder a number of Shares computed in accordance with the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where,			
	X	=	the number of Shares to be issued to Holder pursuant to this net exercise;
	Y	=	the number of Shares for which the net exercise election is made;
	A	=	the fair market value of one Share at the time the net exercise election is made; and
	B	=	the Stated Purchase Price (as adjusted at the date of the net exercise election is made).

(2) For purposes of this Section 1(b), the fair market value of a Share and the effectiveness of the exercise of this Warrant are determined as follows:

(i) if the exercise is in connection with an initial public offering, and if the Company's registration statement relating to such offering has been declared effective by the Securities and Exchange Commission, then the fair market value shall be the initial "Price to Public" specified in the final prospectus with respect to the offering (net of applicable underwriting commissions), and such exercise shall be effected upon the date of such initial public offering, subject to due, proper and prior surrender of this Warrant and the closing of the initial public offering;

(ii) if the exercise is in connection with a Change of Control, then the fair market value shall be the value received by the holders of Shares pursuant to the Change of Control for each share of such securities, and the exercise shall be effective upon the closing of such Change of Control, subject to due, proper and prior surrender of this Warrant and the closing of the Change of Control; or

(iii) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are traded on a securities exchange or through the Nasdaq Global Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; or

(iv) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; or

(v) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are not traded on the over-the-counter market or on an exchange, the fair market value shall be determined in good faith by the Company's Board of Directors (the "Board").

For purposes of this Warrant, A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal restructuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

(c) Issuance of Shares. Upon receipt of the documents and payments described in Section 1(a), the Company shall, as promptly as practicable, execute or cause to be executed, and deliver to Holder a certificate or certificates representing the aggregate number of full Shares issuable upon such exercise, together with an amount in cash in lieu of any fraction of a Share, as hereinafter provided. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of said certificate or certificates, deliver to the Holder a new Warrant evidencing the rights of Holder to purchase the unpurchased Shares, which new Warrant shall in all other respects be identical with this Warrant.

2. Reservation of Shares. The Company covenants that it will at all times until the Warrant Expiration Date reserve and keep available out of its authorized and unissued Common Stock (or other securities of the Company, as applicable), solely for the purpose of issue upon exercise of this Warrant such number of shares of Common Stock (or other securities of the Company, as applicable) as shall then be issuable upon the exercise of this Warrant.

3. Loss or Mutilation. Upon receipt of evidence satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant (including a reasonably detailed affidavit with respect to the circumstances of any loss, theft or destruction of such Warrant), and, in the case of any such mutilation, upon surrender and cancellation of this Warrant, the Company, at Holder's expense, will execute and deliver, in lieu hereof, a new Warrant of like tenor.

4. Adjustments to Shares and Stated Purchase Price.

(a) If the Company at any time after the date hereof through the Warrant Expiration Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of Common Stock into a greater number of shares, the Stated Purchase Price in effect immediately prior to such subdivision will be proportionately reduced and the number of shares issuable upon exercise of this Warrant will be proportionately increased, and if the Company at any time combines (by reverse stock split, recapitalization or otherwise) its outstanding shares of Common Stock into a smaller number of shares, the Stated Purchase Price in effect immediately prior to such combination will be proportionately increased and the number of shares issuable upon exercise of this Warrant will be proportionately decreased. If the Company at any time shall, by combination, reclassification, exchange or subdivision of securities or otherwise, change any of the securities as to which purchase rights under this Warrant exist into the same or a different number of securities of any other class or classes, this Warrant shall thereafter represent the right to acquire such number and kind of securities as would have been issuable as the result of such change with respect to the securities which were subject to the purchase rights under this Warrant immediately prior to such combination, reclassification, exchange, subdivision or other change.

(b) If the Company at any time after the date hereof through the Warrant Expiration Date issues or sells any stock or other security (other than warrants or options to subscribe for or purchase shares of Common Stock or Preferred Stock granted to employees or consultants to the Company or securities issued by the Company in connection with an initial public offering) that is at any time and under any circumstances, directly or indirectly convertible into, exercisable or exchangeable for, or which otherwise entitles the holder thereof to acquire, any shares of Common Stock or Preferred Stock (the "Convertible Securities"), for a consideration per share less than $2.00 per share (subject to adjustment pursuant to Section 4(a)) or for which the Convertible Securities have a conversion rate of less than $2.00 per share (subject to adjustment pursuant to 4(a)), then the Stated Purchase Price in effect immediately prior to such issuance or sale will be reduced, concurrently with such issue, to the consideration per share received by the Company for such issuance or sale.

(c) When any adjustment is required to be made in the number or kind of Shares purchasable upon exercise of this Warrant, or the Stated Purchase Price, the Company shall promptly notify the Holder in writing of such event, of the number and description of Shares thereafter purchasable upon exercise of this Warrant, and of the revised Stated Purchase Price.

5. Fractional Shares. No fractional Shares shall be issued upon the exercise of this Warrant, but, instead of any fraction of a Share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Common Stock (or other securities, as applicable) as of the close of business on the date of the notice required by Section 1 above, determined in good faith by the Board.

6. Warrant Not Transferable. This Warrant is only exercisable by Holder and it is not transferable to any other party.

7. Agreements. As a condition precedent to any exercise of this Warrant, Holder understands and agrees that it may be required to execute certain documents and agreements (in Company standard form) relating to the purchase and sale of Shares, as well as right of first refusal, co-sale and voting rights agreements, if applicable, which all other purchasers of the same class of shares are required to execute. Upon the execution and delivery of such documents and agreements, Holder will become a party to, and bound by, such agreements, as so amended or restated, as to the securities acquired upon exercise of this Warrant.

8. Holder's Representations and Warranties. Holder, by acceptance hereof, hereby represents as follows:

(a) Investment Purpose. The right to acquire Shares (and the Shares) issuable upon exercise of the Holder's rights contained herein will be acquired for investment and not with a view to the sale or distribution of any part thereof, and the Holder has no present intention of selling or engaging in any public distribution of the same except pursuant to a registration or exemption.

(b) Private Issue. The Holder understands (i) that the Shares issuable upon exercise of this Warrant are not registered under the Securities Act or qualified under applicable state securities laws on the ground that the issuance contemplated by this Warrant will be exempt from the registration and qualifications requirements thereof, and (ii) that the Company's reliance on such exemption is predicated on the representations of Holder herein.

(c) Financial Risk. The Holder has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of its investment, and has the ability to bear the economic risks of its investment.

(d) Risk of No Registration. The Holder understands that if the Company does not register pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (the "1934 Act"), or file reports pursuant to Section 15(d) of the 1934 Act, or if a registration statement covering the securities under the Securities Act is not in effect when it desires to sell the securities issuable upon exercise of this Warrant, it may be required to hold such securities for an indefinite period. The Holder also understands that any sale of securities issued or issuable hereunder which might be made by it in reliance upon Rule 144 under the Securities Act may be made only in accordance with the terms and conditions of that Rule.

(e) Accredited Investor. Holder is an "accredited investor" within the meaning of Rule 501 of Regulation D, promulgated under the Securities Act, as presently in effect.

9. Company's Representations and Warranties. The Company hereby represents and warrants to Holder as follows:

(a) Due Authorization. This Warrant has been duly authorized, executed and delivered by the Company and constitutes the valid and binding obligation of the Company, enforceable in accordance with its terms.

(b) Status of Shares; Price. The Shares purchased by Holder upon any exercise of this Warrant in accordance with its terms will be, when issued by the Company, duly authorized, validly issued, fully paid in compliance with applicable securities laws (assuming the accuracy of the Holder's representations and warranties herein) and nonassessable.

10. Holder Not Deemed Stockholder. Holder will not, as such, be entitled to vote or to receive dividends or be deemed the holder Shares that may at any time be issuable upon exercise of this Warrant for any purpose whatsoever, nor shall anything contained herein be construed to confer upon Holder, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to receive dividends or subscription rights, until Holder shall have exercised this Warrant and been issued Shares in accordance with the provisions hereof. Subject to applicable law, any right not specifically granted hereunder to Holder is hereby disclaimed by the Company.

11. Modification of Warrant. This Warrant shall not be modified, supplemented or altered in any respect except with the consent in writing of the Holder and the Company.

12. Notices. All demands, notices and communications relating to this Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows (or to such other address as to which notice may be given hereunder by the party entitled to receipt of notice):

If to the Company:

Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attention: Reyn E. Gallacher
Chief Financial Officer
Telephone: (801) 839-3502
Telecopy: (801) 839-3601

13. Governing Law. This Warrant shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

14. Jurisdiction. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any Utah State or Federal court sitting in Salt Lake City in any action or proceeding arising out of or relating to this Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such Utah State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 12 hereof. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

15. Waiver of Jury Trial. **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT.**

16. Miscellaneous. The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

[*signature page follows*]

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed as of , 2011.

AMEDICA CORPORATION

By: ______________________________
Name: Reyn E. Gallacher
Title: Chief Financial Officer

EXHIBIT A

EXERCISE FORM
(To be signed only on exercise of Warrant)

Amedica Corporation,
1885 West 2100 South
Salt Lake City, UT 84119

The undersigned hereby irrevocably elects to exercise the right to purchase represented by the within Warrant for, and to purchase thereunder, shares of the stock provided for therein, and requests that certificates for such shares be issued in its name, and, if said number of shares shall not be all the shares purchasable thereunder, that a new Warrant for the balance remaining of the shares be issued to it.

In connection with this exercise, attached please find all documents required to be signed by the undersigned as per the terms of the Warrant, all duly executed by the undersigned and binding thereupon.

Name of Holder: ______________________________

Signature: ______________________________

Position of Signatory: ______________________________

Date: ______________________________

Exhibit 4.13

CDC-__A

AMENDMENT TO
WARRANT TO PURCHASE SHARES OF COMMON STOCK OF
AMEDICA CORPORATION

This Amendment to Warrant to Purchase Shares of Common Stock (this "***Amendment***") dated as of December 18, 2012, is made by and between Amedica Corporation, a Delaware corporation (the "***Company***"), and the undersigned, (the "***Warrant Holder***"), and it hereby amends that certain Warrant to Purchase Shares of Common Stock of the Company (the "***Existing Warrant***") originally issued in connection with the Company's issuance and sale of its Senior Secured Subordinated Convertible Promissory Notes during the period beginning March 4, 2011 and ending February 15, 2012 (referred to herein collectively as the "***Convertible Notes***" and each individually as a ***"Convertible Note***").

WHEREAS, the requisite holders of Convertible Notes voted, consented and agreed to amend the Convertible Notes such that all of the Convertible Notes would be automatically converted into shares of the Company's Series F Convertible Preferred Stock, par value $0.01 per share ("***Series F Preferred Stock***"), immediately prior to the Company entering into a term loan ($18 million) and a new revolving credit facility (up to $3.5 million) (the "***GE Credit Facility***") with General Electric Capital Corporation ("***GECC***") and/or with one or more of GECC's affiliates or designees and such other lenders as may be determined by GECC (or determined by one or more of GECC's affiliates or designees) (referred to herein collectively as the "***GE Lenders***").

WHEREAS, on December 17, 2012, the Company and the GE Lenders completed the closing of the GE Credit Facility and the outstanding Convertible Notes automatically were converted into shares of Series F Preferred Stock immediately prior to the Company entering into the GE Credit Facility.

WHEREAS, in connection with the Company's issuance of shares of Series F Preferred Stock upon conversion of the Convertible Notes, the Company now offers to amend the Existing Warrant, subject to the approval of the Warrant Holder, to (a) extend the Warrant Expiration Date (as defined therein) by four (4) additional years and (b) reduce the Stated Purchase Price (as defined therein) from $2.00 per share of Common Stock to $1.00 per share.

WHEREAS, Section 11 of the Existing Warrant provides that it may be amended only with the consent of the holder of such Existing Warrant, and the Warrant Holder and the Company have executed and delivered this Amendment.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual promises contained herein, and the benefits to be derived by each party hereunder, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Amedica and Warrant Holder, intending to be legally bound, hereby agree to amend the Existing Warrant, as set forth below and hereby agree as follows:

AGREEMENT:

Section 1.1 *Amendments.*

(a) The words "$2.00 per share" that appear in the second sentence of the first paragraph of the Existing Warrant are deleted, and the words "$1.00 per share" are inserted in place thereof.

(b) The words “third anniversary” that appear in the penultimate sentence of the first paragraph of the Existed Warrant are deleted, and the words “seventh anniversary” are inserted in place thereof.

Section 1.2 *No Further Amendments.* Except as expressly amended hereby, the Existing Warrant is in all respects ratified and confirmed and all the terms, conditions, and provisions thereof shall remain in full force and effect.

Section 1.3 *Effect of Amendment*. This Amendment shall form a part of the Existing Warrant for all purposes, and each party thereto and hereto shall be bound hereby. From and after the execution of this Amendment by the parties hereto, any reference to the Existing Warrant shall be deemed a reference to the Existing Warrant as amended hereby.

Section 1.4 *Headings*. The descriptive headings contained in this Amendment are included for convenience of reference only and shall not affect in any way the meaning or interpretation of this Amendment.

Section 1.5 *Counterparts; Facsimiles*. This Amendment may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement. A facsimile or other electronically transmitted signature on this Amendment is as valid as an original signature.

Section 1.6 *Governing Law*. This Amendment and the rights and duties of the parties hereto shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware.

IN WITNESS WHEREOF, the Company and Warrant Holder have caused this Amendment to Warrant to Purchase Shares of Common Stock of Amedica Corporation to be executed and delivered as of the date first written above by their respective officers thereunto duly authorized.

THE COMPANY:

AMEDICA CORPORATION

By: ________________________________
Name: Eric K. Olson
Title: President and CEO

WARRANT HOLDER:

[ ]

By: ________________________________
Print/Type Name:
Print/Type Title:

CDC- A2

AMENDMENT NO. 2 TO
WARRANT TO PURCHASE SHARES OF COMMON STOCK OF
AMEDICA CORPORATION

This Amendment No. 2 to Warrant to Purchase Shares of Common Stock (this "***Amendment***") dated as of February 1, 2013, is made by and between Amedica Corporation, a Delaware corporation (the "***Company***"), and the undersigned, (the "***Warrant Holder***"), and it hereby amends that certain Warrant to Purchase Shares of Common Stock of the Company (the "***Existing Warrant***") originally issued in connection with the Company's issuance and sale of its Senior Secured Subordinated Convertible Promissory Notes during the period beginning March 4, 2011 and ending February 15, 2012.

WHEREAS, the Existing Warrant was previously amended pursuant to that certain Amendment to Warrant to Purchase Shares of Common Stock of Amedica Corporation dated December 18, 2012 pursuant to which the Warrant Expiration Date (as defined therein) was extended by four (4) additional years and the Stated Purchase Price (as defined therein) was reduced from $2.00 per share of Common Stock to $1.00 per share.

WHEREAS, the Company now offers to amend the Existing Warrant, as previously amended, subject to the approval of the Warrant Holder, to reduce the Stated Purchase Price (as defined therein) from $1.00 per share of Common Stock to $0.68 per share.

WHEREAS, Section 11 of the Existing Warrant provides that it may be amended only with the consent of the holder of such Existing Warrant, and the Warrant Holder and the Company have executed and delivered this Amendment.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual promises contained herein, and the benefits to be derived by each party hereunder, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Amedica and Warrant Holder, intending to be legally bound, hereby agree to amend the Existing Warrant, as previously amended, as set forth below and hereby agree as follows:

AGREEMENT:

Section 1.1 *Amendment*. The words "$1.00 per share" that appear in the second sentence of the first paragraph of the Existing Warrant, as amended, are deleted, and the words "$0.68 per share" are inserted in place thereof.

Section 1.2 *No Further Amendments.* Except as expressly amended hereby, the Existing Warrant, as amended, is in all respects ratified and confirmed and all the terms, conditions, and provisions thereof shall remain in full force and effect.

Section 1.3 *Effect of Amendment*. This Amendment shall form a part of the Existing Warrant for all purposes, and each party thereto and hereto shall be bound hereby. From and after the execution of this Amendment by the parties hereto, any reference to the Existing Warrant shall be deemed a reference to the Existing Warrant as amended hereby.

Section 1.4 *Headings*. The descriptive headings contained in this Amendment are included for convenience of reference only and shall not affect in any way the meaning or interpretation of this Amendment.

Section 1.5 *Counterparts; Facsimiles*. This Amendment may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement. A facsimile or other electronically transmitted signature on this Amendment is as valid as an original signature.

Section 1.6 *Governing Law*. This Amendment and the rights and duties of the parties hereto shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware.

IN WITNESS WHEREOF, the Company and Warrant Holder have caused this Amendment No. 2 to Warrant to Purchase Shares of Common Stock of Amedica Corporation to be executed and delivered as of the date first written above by their respective officers thereunto duly authorized.

THE COMPANY:

AMEDICA CORPORATION

By: ____________________________

Name: Eric K. Olson
Title: President and CEO

WARRANT HOLDER:

[ ]

By: ____________________________

Print/Type Name:
Print/Type Title:

Exhibit 4.15

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION WITH RESPECT THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS. THERE IS NO AND THERE IS NOT EXPECTED TO BE A PUBLIC MARKET FOR THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF. INVESTORS SHOULD BE AWARE THAT THEY WILL BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME.

WARRANT TO PURCHASE

SHARES OF COMMON STOCK OF

AMEDICA CORPORATION

Issue Date: February 17, 2010

This certifies that University of Utah Research Foundation, a Utah nonprofit corporation. 615 Arapeen Way, Suite 310, Salt Lake City, Utah 84108 ("Holder"), for value received, is entitled to purchase from Amedica Corporation, a Delaware corporation with offices at 1885 West 2100 South, Salt Lake City, UT 84119 (the "Company"), Seventy five Thousand (75,000) shares of the Company's common stock, $0.01 par value per share ("Common Stock"), as such number and class of securities may be adjusted in accordance with the terms of Section 4 below, for the Stated Purchase Price (defined below), at any time up to and including 5:00 p.m. (Mountain time) on the Warrant Expiration Date (as defined below) in accordance with the terms hereof. "Stated Purchase Price" shall mean the purchase price to be paid upon exercise of this Warrant in accordance with the terms hereof, which price initially shall be $1.75 per share of Common Stock. The Stated Purchase Price shall be subject to adjustment from time to time pursuant to the provisions of Section 4 below. "Warrant Expiration Date" means the earlier of (i) February 17, 2017, (ii) the closing of the issuance and sale of shares of Common Stock of the Company in the Company's first underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act"), or (iii) thirty (30) days after the later of a consummation of a Change of Control, as defined below, or Holder's receipt of written notice of a Change of Control. If pursuant to the above the Warrant Expiration Date would be a Saturday, Sunday or legal holiday in the State of Utah, then the Warrant Expiration Date shall be the next succeeding date that is not a Saturday, Sunday or legal holiday. A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal restructuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

1. Exercise.

(a) Manner of Exercise. This Warrant may be exercised at any time or from time to time for all or any part of the number of shares of Common Stock (or other securities) then purchasable upon its exercise (the “Shares”); provided, however, that this Warrant shall be void and all rights represented hereby shall cease unless exercised before the end of the Warrant Expiration Date. In order to exercise this Warrant, in whole or in part, Holder will deliver to the Company at its principal executive offices, or at such other office as the Company may designate by notice in writing, (i) this Warrant, (ii) a written notice of Holder’s election to exercise this Warrant substantially in the form of Exhibit A attached hereto (the “Notice of Exercise”), and (iii) any documents required pursuant to Section 7 hereof, and shall pay to the Company in cash, by a certified or cashier’s check drawn on a United States Bank made payable to the order of the Company, or by wire transfer of funds to a bank account designated by the Company, an amount equal to the aggregate Stated Purchase Price for all Shares as to which this Warrant is exercised.

(b) Net Exercise.

(1) In lieu of exercising this Warrant by payment in cash, or by check or wire transfer, the Holder may elect to receive Shares equal to the value of this Warrant (or the portion thereof being exercised), at any time after the date hereof and before the end of the Warrant Expiration Date, by surrender of this Warrant at the principal executive office of the Company, together with the Notice of Exercise in the form annexed hereto, in which event the Company will issue to the Holder a number of Shares computed in accordance with the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where, X = the number of Shares to be issued to Holder pursuant to this net exercise;

Y = the number of Shares for which the net exercise election is made;

A = the fair market value of one Share at the time the net exercise election is made; and

B = the Stated Purchase Price (as adjusted at the date of the net exercise election is made).

(2) For purposes of this Section 1(b), the fair market value of a Share and the effectiveness of the exercise of this Warrant are determined as follows:

(i) if the exercise is in connection with an initial public offering, and if the Company’s registration statement relating to such offering has been declared effective by the Securities and Exchange Commission, then the fair market value shall be the initial “Price to Public” specified in the final prospectus with respect to the offering, and such exercise shall be effected upon the date of such initial public offering, subject to due, proper and prior surrender of this Warrant and the closing of the initial public offering;

(ii) if the exercise is in connection with a Change of Control, then the fair market value shall be the value received by the holders of Shares pursuant to the Change of Control for each share of such securities, and the exercise shall be effective upon the closing of such Change of Control, subject to due, proper and prior surrender of this Warrant and the closing of the Change of Control; or

(iii) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are not traded on the over-the-counter market or on an exchange, the fair market value shall be determined in good faith by the Company's Board of Directors (the "Board").

(c) Issuance of Shares. Upon receipt of the documents and payments described in Section 1(a), the Company shall, as promptly as practicable, execute or cause to be executed, and deliver to Holder a certificate or certificates representing the aggregate number of full Shares issuable upon such exercise, together with an amount in cash in lieu of any fraction of a Share, as hereinafter provided. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of said certificate or certificates, deliver to the Holder a new Warrant evidencing the rights of Holder to purchase the unpurchased Shares, which new Warrant shall in all other respects be identical with this Warrant.

2. Reservation of Shares. The Company covenants that it will at all times until the Warrant Expiration Date reserve and keep available out of its authorized and unissued Common Stock (or other securities of the Company, as applicable), solely for the purpose of issue upon exercise of this Warrant such number of shares of Common Stock (or other securities of the Company, as applicable) as shall then be issuable upon the exercise of this Warrant.

3. Loss or Mutilation. Upon receipt of evidence satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant (including a reasonably detailed affidavit with respect to the circumstances of any loss, theft or destruction of such Warrant), and, in the case of any such mutilation, upon surrender and cancellation of this Warrant, the Company, at Holder's expense, will execute and deliver, in lieu hereof, a new Warrant of like tenor.

4. Adjustments to Shares and Stated Purchase Price. If the Company at any time subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of Common Stock into a greater number of shares, the Stated Purchase Price in effect immediately prior to such subdivision will be proportionately reduced and the number of shares issuable upon exercise of this Warrant will be proportionately increased, and if the Company at any time combines (by reverse stock split, recapitalization or otherwise) its outstanding shares of Common Stock into a smaller number of shares, the Stated Purchase Price in effect immediately prior to such combination will be proportionately increased and the number of shares issuable upon exercise of this Warrant will be proportionately decreased. If the Company at any time shall, by combination, reclassification, exchange or subdivision of securities or otherwise, change any of the securities as to which purchase rights under this Warrant exist into the same or a different number of securities of any other class or classes, this Warrant shall thereafter represent the right to acquire such number and kind of securities as would have been issuable as the result of such change with respect to the securities which were subject to the purchase rights

under this Warrant immediately prior to such combination, reclassification, exchange, subdivision or other change. When any adjustment is required to be made in the number or kind of Shares purchasable upon exercise of this Warrant, or the Stated Purchase Price, the Company shall promptly notify the Holder in writing of such event, of the number and description of Shares thereafter purchasable upon exercise of this Warrant, and of the revised Stated Purchase Price.

5. Fractional Shares. No fractional Shares shall be issued upon the exercise of this Warrant, but, instead of any fraction of a Share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Common Stock (or other securities, as applicable) as of the close of business on the date of the notice required by Section 1 above, determined in good faith by the Board.

6. Warrant Not Transferable. This Warrant is only exercisable by Holder and it is not transferable to any other party.

7. Agreements. As a condition precedent to any exercise of this Warrant, Holder understands and agrees that it may be required to execute certain documents and agreements (in Company standard form) relating to the purchase and sale of Shares, as well as right of first refusal, co-sale and voting rights agreements, if applicable, which all other purchasers of the same class of shares are required to execute. Upon the execution and delivery of such documents and agreements, Holder will become a party to, and bound by, such agreements, as so amended or restated, as to the securities acquired upon exercise of this Warrant.

8. Holder's Representations and Warranties. Holder, by acceptance hereof, hereby represents as follows:

(a) Investment Purpose. The right to acquire Shares (and the Shares) issuable upon exercise of the Holder's rights contained herein will be acquired for investment and not with a view to the sale or distribution of any part thereof, and the Holder has no present intention of selling or engaging in any public distribution of the same except pursuant to a registration or exemption.

(b) Private Issue. The Holder understands (i) that the Shares issuable upon exercise of this Warrant are not registered under the Securities Act or qualified under applicable state securities laws on the ground that the issuance contemplated by this Warrant will be exempt from the registration and qualifications requirements thereof, and (ii) that the Company's reliance on such exemption is predicated on the representations of Holder herein.

(c) Financial Risk. The Holder has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of its investment, and has the ability to bear the economic risks of its investment.

(d) Risk of No Registration. The Holder understands that if the Company does not register pursuant to Section 12 of the Securities Exchange Act of 1934, as

amended (the "1934 Act"), or file reports pursuant to Section 15(d) of the 1934 Act, or if a registration statement covering the securities under the Securities Act is not in effect when it desires to sell the securities issuable upon exercise of this Warrant, it may be required to hold such securities for an indefinite period. The Holder also understands that any sale of securities issued or issuable hereunder which might be made by it in reliance upon Rule 144 under the Securities Act may be made only in accordance with the terms and conditions of that Rule.

(e) Accredited Investor. Holder is an "accredited investor" within the meaning of Rule 501 of Regulation D, promulgated under the Securities Act, as presently in effect.

9. Company's Representations and Warranties. The Company hereby represents and warrants to Holder as follows:

(a) Due Authorization. This Warrant has been duly authorized, executed and delivered by the Company and constitutes the valid and binding obligation of the Company, enforceable in accordance with its terms.

(b) Status of Shares; Price. The Shares purchased by Holder upon any exercise of this Warrant in accordance with its terms will be, when issued by the Company, duly authorized, validly issued, fully paid in compliance with applicable securities laws (assuming the accuracy of the Holder's representations and warranties herein) and nonassessable.

10. Holder Not Deemed Stockholder. Holder will not, as such, be entitled to vote or to receive dividends or be deemed the holder Shares that may at any time be issuable upon exercise of this Warrant for any purpose whatsoever, nor shall anything contained herein be construed to confer upon Holder, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to receive dividends or subscription rights, until Holder shall have exercised this Warrant and been issued Shares in accordance with the provisions hereof. Subject to applicable law, any right not specifically granted hereunder to Holder is hereby disclaimed by the Company.

11. Modification of Warrant. This Warrant shall not be modified, supplemented or altered in any respect except with the consent in writing of the Holder and the Company.

12. Notices. All demands, notices and communications relating to this Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows (or to such other address as to which notice may be given hereunder by the party entitled to receipt of notice):

If to the Company:

Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attention: Reyn E. Gallacher
Chief Financial Officer
Telephone: (801) 839-3502
Telecopy: (801) 839-3605

with a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
Attention: Jonathan L. Kravetz, Esq.
Telephone: (617) 542-6000
Telecopy: (617) 542-2241

If to Holder:

University of Utah Research Foundation
615 Arapeen Way, Suite 310
Salt Lake City, UT 84108
Attention: _______________
Telephone: (801)
Telecopy: (801)

13. Governing Law. This Warrant shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

14. Jurisdiction. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any Utah State or Federal court sitting in Salt Lake City in any action or proceeding arising out of or relating to this Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such Utah State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 12 hereof. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

15. Waiver of Jury Trial**. TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT.**

16. Miscellaneous. The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed as of February 17, 2010.

AMEDICA CORPORATION

By: /s/ Reyn E. Gallacher
Name: Reyn E. Gallacher
Title: Chief Financial Officer

EXHIBIT A

EXERCISE FORM
(To be signed only on exercise of Warrant)

Amedica Corporation,
1885 West 2100 South
Salt Lake City, UT 84119

The undersigned hereby irrevocably elects to exercise the right to purchase represented by the within Warrant for, and to purchase thereunder, ________ shares of the stock provided for therein, and requests that certificates for such shares be issued in its name, and, if said number of shares shall not be all the shares purchasable thereunder, that a new Warrant for the balance remaining of the shares be issued to it.

In connection with this exercise, attached please find all documents required to be signed by the undersigned as per the terms of the Warrant, all duly executed by the undersigned and binding thereupon.

Name of Holder: ______________________________

Signature: ___________________________________

Position of Signatory: _________________________

Date: _______________________________________

Exhibit 4.16

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE TRANSFERRED OR OTHERWISE DISPOSED OF UNLESS IT HAS BEEN REGISTERED UNDER THE ACT AND SUCH LAWS OR (1) REGISTRATION UNDER APPLICABLE STATE SECURITIES LAWS IS NOT REQUIRED AND (2) AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY IS FURNISHED TO THE COMPANY TO THE EFFECT THAT REGISTRATION UNDER THE ACT IS NOT REQUIRED.

AMEDICA CORPORATION

WARRANT TO PURCHASE COMMON STOCK

Warrant No. AWC-____ Issue Date: ______, 2012

This certifies that, for value received, (the "Holder"), is entitled to subscribe for and purchase up to ( ) shares (subject to adjustment from time to time pursuant to the provisions of Section 5 hereof) of fully paid and nonassessable Common Stock of Amedica Corporation, a Delaware corporation (the "Company"), at the Warrant Price (as defined in Section 2 hereof), subject to the provisions and upon the terms and conditions hereinafter set forth.

As used herein, the term "Common Stock" shall mean the Company's presently authorized Common Stock, $0.01 par value per share, and any stock into or for which such Common Stock may hereafter be converted or exchanged and the term "Warrant Shares" shall mean the shares of Common Stock purchasable upon exercise or conversion of this Warrant.

1. Term of Warrant. The purchase or conversion right represented by this warrant (hereinafter the " Warrant") is exercisable, in whole or in part, at any time up to an including 5:00 (New York City time) on the on the third anniversary of the date hereof in accordance with the terms hereof.

Unless otherwise exercised by the Holder, this Warrant shall terminate at, and shall not be exercisable following, 5:00 (New York City time) on the on the third anniversary of the date hereof (the "Expiration Time").

2. Warrant Price. The initial exercise price of this Warrant shall be equal to $2.00 per share, subject to adjustment from time to time pursuant to the provisions of Section 5 hereof (the "Warrant Price").

3. Method of Exercise or Conversion; Payment; Issuance of New Warrant.

(a) Exercise. Subject to Section 1 hereof, the purchase right represented by this Warrant may be exercised by the Holder hereof, in whole or in part, by the surrender of this Warrant (with the notice of exercise form attached hereto as Exhibit 1 duly executed) at the principal office of the Company and by the payment to the Company, by check or wire transfer

in United States dollars, of an amount equal to the then applicable Warrant Price per share multiplied by the number of Warrant Shares then being purchased. The Company agrees that the Warrant Shares so purchased shall be deemed to be issued to the Holder hereof as the record owner of such shares as of the close of business on the date on which this Warrant shall have been surrendered and payment made for such Warrant Shares as aforesaid. In the event of any exercise of this Warrant, certificates for the shares of stock so purchased shall be delivered to the Holder hereof within thirty (30) days thereafter and, unless this Warrant has been fully exercised or expired, a new Warrant representing the portion of the Warrant Shares, if any, with respect to which this Warrant shall not then have been exercised, shall also be issued to the Holder hereof within such thirty (30) day period.

4. Stock Fully Paid; Reservation of Shares. All Common Stock which may be issued upon the exercise or conversion of this Warrant will, upon issuance, be fully paid and nonassessable, and free from all taxes, liens and charges with respect to the issue thereof. During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized, and reserved for the purpose of the issuance upon exercise of the purchase rights evidenced by this Warrant, a sufficient number of shares of its Common Stock to provide for the exercise of the rights represented by this Warrant.

5. Adjustment of Purchase Price and Number of Shares. The kind of securities purchasable upon the exercise of this Warrant, the Warrant Price and the number of shares purchasable upon exercise of this Warrant shall be subject to adjustment from time to time upon the occurrence of certain events as follows:

(a) Reclassification, Consolidation or Merger. Subject to the provisions of Section 10 hereof, in case of any reclassification or change of outstanding securities of the class issuable upon exercise of this Warrant (other than a change in par value, or from par value to no par value, or from no par value to par value), or in case of any consolidation or merger of the Company with or into another corporation, other than a merger with another corporation in which the Company is a continuing corporation and which does not result in any reclassification or change of outstanding securities issuable upon exercise of this Warrant, or in case of any sale of all or substantially all of the assets of the Company, the Company, or such successor or purchasing corporation, as the case may be, shall execute a new Warrant, providing that the Holder of this Warrant shall have the right to exercise such new Warrant and procure upon such exercise, in lieu of each share of Common Stock theretofore issuable upon exercise of this Warrant, the kind and amount of shares of stock, other securities, money and property receivable upon such reclassification, change, consolidation, or merger by a holder of one share of Common Stock. The provisions of this subsection (a) shall similarly apply to successive reclassification, changes, consolidations, mergers and transfers.

(b) Subdivision or Combination of Shares. If the Company at any time while this Warrant remains outstanding and unexpired shall subdivide or combine its Common Stock, the Warrant Price shall be proportionately decreased in the case of a subdivision or increased in the case of a combination.

(c) Stock Dividends. If the Company at any time while this Warrant is outstanding and unexpired shall pay a dividend with respect to Common Stock payable in, or make any other distribution with respect to Common Stock (except any distribution specifically provided for in the foregoing subparagraphs (a) or (b)) of, Common Stock, then the Warrant Price shall be adjusted, from and after the date of determination of shareholders entitled to receive such dividend or distribution, to that price determined by multiplying the Warrant Price in effect immediately prior to such date of determination by a fraction (i) the numerator of which shall be the total number of shares of Common Stock outstanding immediately prior to such dividend or distribution and (ii) the denominator of which shall be the total number of shares of Common Stock outstanding immediately after such dividend or distribution.

(d) Adjustment of Number of Shares. Upon each adjustment in the Warrant Price pursuant to any of Section 5 (a) through (c), the number of shares of Common Stock purchasable hereunder shall be adjusted, to the nearest whole share, to the product obtained by multiplying the number of shares purchasable immediately prior to such adjustment in the Warrant Price by a fraction, the numerator of which shall be the Warrant Price immediately prior to such adjustment and the denominator of which shall be the Warrant Price immediately thereafter.

6. Notice of Adjustments. Whenever any Warrant Price shall be adjusted pursuant to Section 5 hereof, the Company shall prepare a certificate signed by its chief financial officer setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated, the Warrant Price after giving effect to such adjustment and the number of shares then purchasable upon exercise of this Warrant, and shall cause copies of such certificate to be mailed (by first class mail, postage prepaid) to the holder of this Warrant at the address specified in Section 11(d) hereof, or at such other address as may be provided to the Company in writing by the holder of this Warrant.

7. Fractional Shares. No fractional shares of Common Stock will be issued in connection with any exercise hereunder, but in lieu of such fractional shares the Company shall make a cash payment therefor upon the basis of the Warrant Price then in effect.

8. Compliance with the Securities Act.

(a) Unregistered Securities. The Holder acknowledges that this Warrant and the Warrant Shares have not been registered under the Securities Act of 1933, as amended (the "Securities Act"). The Holder, by acceptance hereof, agrees that this Warrant and the Warrant Shares are being acquired for investment for such Holder's own account and not with a view toward distribution thereof, and that it will not offer, sell or otherwise dispose of this Warrant or any Warrant Shares unless this Warrant has been registered under the Securities Act and applicable state securities laws or (i) registration under applicable state securities laws is not required and (ii) an opinion of counsel satisfactory to the Company is furnished to the Company to the effect that registration under the Securities Act is not required.

(b) Investment Representations. Without limiting the generality of Section 8(a) hereof, unless the offer and sale of any Warrant Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue Common Stock in accordance with this Warrant unless and until the Holder shall have executed a document containing the investment representations substantially as set forth in Exhibit 1 hereto, including a warranty at the time of such exercise that the Holder is acquiring such shares for its own account, for investment and not with a view to, or for sale in connection with, the distribution of any such shares.

(c) Legends. Certificates delivered to the Holder pursuant to this Warrant shall bear the following legends or legends in substantially similar form:

"THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE BEEN TAKEN FOR INVESTMENT AND THEY MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SHARES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR AN OPINION OF COUNSEL, SATISFACTORY TO THE COMPANY, THAT AN EXEMPTION FROM REGISTRATION IS THEN AVAILABLE."

"THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO RESTRICTIONS SET FORTH IN A WARRANT DATED APRIL 18, 2011 WITH THIS COMPANY, A COPY OF WHICH IS AVAILABLE FOR INSPECTION AT THE OFFICES OF THE COMPANY OR WILL BE MADE AVAILABLE UPON REQUEST."

(d) Lock-Up Provision. The Holder agrees that in the event the Company proposes to offer for sale to the public any of its equity securities and such Holder is requested by the Company and any underwriter engaged by the Company in connection with such offering to sign an agreement restricting the sale or other transfer of Warrant Shares, then it will promptly sign such agreement and will not transfer, whether in privately negotiated transactions or to the public in open market transactions or otherwise, any Warrant Shares or other securities of the Company held by him or her during such period as is determined by the Company and the underwriters, not to exceed 180 days following the closing of the offering, plus such additional period of time as may be required to comply with Marketplace Rule 2711 of the Financial Industry Regulatory Authority, Inc. or similar rules thereto (such period, the "Lock-Up Period"). Such agreement shall be in writing and in form and substance reasonably satisfactory to the Company and such underwriter and pursuant to customary and prevailing terms and conditions. Notwithstanding whether the Holder has signed such an agreement, the Company may impose stop-transfer instructions with respect to the Warrant Shares or other securities of the Company subject to the foregoing restrictions until the end of the Lock-Up Period.

9. Transfer and Exchange of Warrant and Warrant Shares.

(a) Transfer. This Warrant and the Warrant Shares may not be transferred by the Holder except as expressly permitted herein.

(b) Additional Restrictions. It shall be a condition precedent to the validity of any sale or other transfer of any Warrant Shares by the Holder that the following restrictions be complied with (except as hereinafter otherwise provided):

(i) No Warrant Shares owned by the Holder may be sold, pledged or otherwise transferred (including by gift or devise) to any person or entity, voluntarily, or by operation of law, during the term of this Warrant, except in accordance with the terms and conditions hereinafter set forth.

(ii) In the event of the closing of the Company's first underwritten public offering pursuant to an effective registration statement under the Securities Act covering the offer and sale of the Common Stock for the account of the Company resulting in gross offering proceeds to the Company of not less than $50 million (a "Qualified IPO"), the Holder may transfer the Warrant Shares owned by the Holder upon the expiration of the Lock-Up Period.

(iii) In the event the Holder's engagement is terminated by the Company during the term of this Warrant, the Company shall have the option, but not the obligation, to repurchase all or any part of the Warrant Shares issued pursuant to this Warrant. In the event the Company does not, upon the termination of Holder's engagement by the Company, exercise its option to repurchase Warrant Shares pursuant to this Section 9, the restrictions otherwise set forth in this Warrant shall not thereby lapse, and the Holder for himself or herself, his or her heirs, legatees, executors, administrators and other successors in interest, agrees that the Warrant Shares shall remain subject to such restrictions. The following provisions shall apply to a repurchase under this Section 9:

(A) The per share repurchase price of the Warrant Shares to be sold to the Company upon exercise of its repurchase option under this Section 9 shall be equal to the Fair Market Value of each such Warrant Share as determined in good faith by the Company's board of directors.

(B) The Company's option to repurchase the Holder's Warrant Shares in the event the Holder's engagement is terminated by the Company shall be valid for a period of one (1) year commencing with the date of such termination.

(C) In the event the Company shall be entitled to and shall elect to exercise its option to repurchase the Holder's Warrant Shares pursuant to this Section 9, the Company shall notify the Holder in writing of its intent to repurchase the Warrant Shares. Such written notice may be mailed by the Company up to and including the last day of the time period provided for in Section 9(iii)(B) for exercise of the Company's option to repurchase.

(D) The written notice to the Holder shall specify the address at, and the time and date on, which payment of the repurchase price is to be made (the "Closing"). The date specified shall not be less than (ten) 10 days nor more than sixty (60) days from the date of the mailing of the notice, and the Holder or his or her successor in interest with respect to the Warrant Shares shall have no further rights as the owner thereof from and after the date specified in the notice. At the Closing, the repurchase price shall be

delivered to the Holder or his or her successor in interest and the Warrant Shares being purchased, duly endorsed for transfer, shall, to the extent that they are not then in the possession of the Company, be delivered to the Company by the Holder or his or her successor in interest.

(c) Failure to Deliver Warrant Shares. In the event that the Holder or his or her successor in interest fails to deliver the Warrant Shares to be repurchased by the Company pursuant to this Warrant, the Company may elect (a) to establish a segregated account in the amount of the repurchase price, such account to be turned over to the Holder or his or her successor in interest upon delivery of such Warrant Shares, and (b) immediately to take such action as is appropriate to transfer record title of such Warrant Shares from the Holder to the Company and to treat the Holder and such Warrant Shares in all respects as if delivery of such Warrant Shares had been made as required by this Warrant. The Holder hereby irrevocably grants the Company a power of attorney which shall be coupled with an interest for the purpose of effectuating the preceding sentence.

(d) Stock Dividends, Etc. If the Company shall pay a stock dividend or declare a stock split on or with respect to any of its Common Stock, or otherwise distribute securities of the Company to the holders of its Common Stock, the number of shares of stock or other securities of Company issued with respect to the shares then subject to the restrictions contained in this Warrant shall be added to the Warrant Shares subject to the Company's rights to repurchase pursuant to this Warrant. If the Company shall distribute to its shareholders shares of stock of another corporation, the shares of stock of such other corporation, distributed with respect to the Warrant Shares then subject to the restrictions contained in this Warrant, shall be added to the Warrant Shares subject to the Company's rights to repurchase pursuant to this Warrant.

(e) Subdivision of Shares. If the outstanding shares of Common Stock of the Company shall be subdivided into a greater number of shares or combined into a smaller number of shares, or in the event of a reclassification of the outstanding shares of Common Stock of the Company, or if the Company shall be a party to a merger, consolidation or capital reorganization, there shall be substituted for the Warrant Shares then subject to the restrictions contained in this Warrant such amount and kind of securities as are issued in such subdivision, combination, reclassification, merger, consolidation or capital reorganization in respect of the Warrant Shares subject immediately prior thereto to the Company's rights to repurchase pursuant to this Warrant.

(f) No Duty to Disclose. The Holder acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Holder any material information regarding the business of the Company or affecting the value of the Warrant Shares before, at the time of, or following the expiration of this Warrant, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

10. Termination Upon Certain Events. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets other than a transaction to merely change the state of incorporation (a "Corporate

Transaction"), this Warrant shall terminate on the effective date of such merger, consolidation or sale (the "Termination Date") and become null and void, provided that if this Warrant shall not have otherwise terminated or expired, (1) the Company shall have given the Holder written notice of such Termination Date at least ten (10) days prior to the occurrence thereof and (2) the Holder shall have the right until 5:00 p.m., New York City time, on the day immediately prior to the Termination Date to exercise its rights hereunder to the extent not previously exercised.

11. Miscellaneous.

(a) No Rights as Shareholder. No holder of this Warrant shall be entitled to vote or receive dividends or be deemed the holder of Common Stock or any other securities of the Company which may at any time be issuable on the exercise hereof for any purpose, nor shall anything contained herein be construed to confer upon the holder of this Warrant, as such, any of the rights of a shareholder of the Company or any right to vote for the election of directors or upon any matter submitted to shareholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issuance of stock, reclassification of stock, change of par value or change of stock to no par value, consolidation, merger, conveyance or otherwise) or to receive notice of meetings, or to receive dividends or subscription rights or otherwise until this Warrant shall have been exercised and the shares purchasable upon the exercise hereof shall have become deliverable, as provided herein. The Company shall not be required to transfer any Warrant Shares on its books which shall have been sold, assigned or otherwise transferred in violation of this Warrant, or to treat as owner of such Warrant Shares, or to accord the right to vote as such owner or to pay dividends to, any person or organization to which any such Warrant Shares shall have been so sold, assigned or otherwise transferred, in violation of this Warrant.

(b) Replacement. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement, or bond reasonably satisfactory in form and amount to the Company or, in the case of mutilation, on surrender and cancellation of this Warrant, the Company, at its expense, will execute and deliver, in lieu of this Warrant, a new Warrant of like tenor.

(c) Notice. Any notice given to either party under this Warrant shall be in writing, and any notice hereunder shall be deemed to have been given upon the earlier of delivery thereof by hand delivery, by courier, or by standard form of telecommunication or three (3) business days after the mailing thereof if sent registered mail with postage prepaid, addressed to the Company at its principal executive offices and to the holder at its address set forth in the Company's books and records or at such other address as the holder may have provided to the Company in writing.

(d) Amendment and Waiver. Any term of this Warrant may be amended or waived with the written consent of the Company and the Holder. No waivers of any term, condition or provision of this Warrant, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

(e) No Impairment. The Company will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Company, but will at all times in good faith assist in the carrying out of all the provisions in this Warrant.

(f) Governing Law. This Warrant shall be governed by and construed under the laws of the State of Delaware, without giving effect to the conflict of law principles thereof.

(g) Parties in Interest. This Warrant shall be binding upon and inure solely to the benefit of each party hereto and its successors and permitted assigns, and nothing in this Warrant, express or implied, is intended to or shall confer upon any other person any right, benefit or remedy of any nature whatsoever under or by reason of this Warrant.

[Signature Page Follows]

IN WITNESS WHEREOF, this Warrant to Purchase Common Stock is executed as of this 29th day of February, 2012.

AMEDICA CORPORATION

By: ___________________________

Reyn E. Gallacher
Chief Financial Officer

EXHIBIT 1

NOTICE OF EXERCISE

TO: Amedica Corporation

1. Check Applicable Line Below:

The undersigned hereby elects to purchase   shares of Common Stock of Amedica Corporation pursuant to the terms of the attached Warrant, and tenders herewith payment of the purchase price of such shares in full.

2. Please issue a certificate or certificates representing said shares of Common Stock in the name of the undersigned or in such other name as is specified below:

____
(Name)

____

____
(Address)

3. The undersigned is aware that the shares of Common Stock have not been and will not be registered under the Securities Act of 1933, as amended (the "Securities Act"), or any state securities laws. The undersigned understands that reliance by the Company on exemptions under the Securities Act is predicated in part upon the truth and accuracy of the statements of the undersigned in this Notice of Exercise. The undersigned understands that because the Common Stock has not been registered under the Securities Act, it must continue to bear the economic risk of the investment for an indefinite period of time and the Common Stock cannot be sold unless it is subsequently registered under applicable federal and state securities laws or an exemption from such registration is available.

4. The undersigned represents and warrants that (1) it has been furnished with all information which it deems necessary to evaluate the merits and risks of the purchase of the Common Stock, (2) it has had the opportunity to ask questions concerning the Common Stock and the Company and all questions posed have been answered to its satisfaction, (3) it has been given the opportunity to obtain any additional information it deems necessary to verify the accuracy of any information obtained concerning the Common Stock and the Company, and (4) it has such knowledge and experience in financial and business matters that it is able to evaluate the merits and risks of purchasing the Common Stock and to make an informed investment decision relating thereto.

5. The undersigned hereby represents and warrant that it is purchasing the Common Stock for its own account for investment and not with a view to the sale or distribution of all or any part of the Common Stock. The undersigned agrees that it will in no event sell or distribute

or otherwise dispose of all or any part of the Common Stock unless (1) there is an effective registration statement under the Securities Act and applicable state securities laws covering any such transaction involving the Common Stock, or (2) the Company receives an opinion satisfactory to the Company of the undersigned's legal counsel stating that such transaction is exempt from registration. The undersigned consents to the placing of a legend on its certificate for the Common Stock stating that the Common Stock has not been registered and setting forth the restriction on transfer contemplated hereby and to the placing of a stop transfer order on the books of the Company and with any transfer agents against the Common Stock until the Common Stock may be legally resold or distributed without restriction.

6. The undersigned has considered the federal, state and any foreign income tax implications of the exercise of the Warrant and the purchase and subsequent sale of the Common Stock.

____
Signature

____
Date

Exhibit 4.17

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION WITH RESPECT THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS. THERE IS NO AND THERE IS NOT EXPECTED TO BE A PUBLIC MARKET FOR THE SHARES OF COMMON STOCK ISSUABLE UPON ANY EXERCISE HEREOF. INVESTORS SHOULD BE AWARE THAT THEY WILL BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME.

WARRANT TO PURCHASE

SHARES OF COMMON STOCK OF

AMEDICA CORPORATION

Warrant No. Issue Date: August 30, 2013

This certifies that, for value received, (the "Holder"), is entitled to purchase from Amedica Corporation, a Delaware corporation with offices at 1885 West 2100 South, Salt Lake City, UT 84119 (the "Company"), ( ) shares of the Company's common stock, $0.01 par value per share ("Common Stock"), as such number and class of securities may be adjusted in accordance with the terms of Section 4 below, for the Stated Purchase Price (defined below), at any time up to and including 5:00 p.m. (New York City time) on the Warrant Expiration Date (as defined below) in accordance with the terms hereof. "Stated Purchase Price" shall mean the purchase price to be paid upon exercise of this Warrant in accordance with the terms hereof, which price initially shall be $1.00 per share of Common Stock. The Stated Purchase Price shall be subject to adjustment from time to time pursuant to the provisions of Section 4 below. "Warrant Expiration Date" means 5:00 p.m., New York City time, on the fifth anniversary of the original date of issuance of the Warrant. If pursuant to the above the Warrant Expiration Date would be a Saturday, Sunday or legal holiday in the State of Utah, then the Warrant Expiration Date shall be the next succeeding date that is not a Saturday, Sunday or legal holiday.

1. Exercise.

(a) Manner of Exercise. This Warrant may be exercised at any time or from time to time for all or any part of the number of shares of Common Stock (or other securities) then purchasable upon its exercise (the "Shares"); provided, however, that this Warrant shall be void and all rights represented hereby shall cease unless exercised before the end of the Warrant Expiration Date. In order to exercise this Warrant, in whole or in part, Holder will deliver to the Company at its principal executive offices, or at such other office as the Company may designate by notice in writing, (i) this Warrant, (ii) a written notice of Holder's election to exercise this Warrant substantially in the form of Exhibit A attached hereto (the "Notice of Exercise"), and

(iii) any documents required pursuant to Section 7 hereof, and shall pay to the Company in cash, by a certified or cashier's check drawn on a United States Bank made payable to the order of the Company, or by wire transfer of funds to a bank account designated by the Company, an amount equal to the aggregate Stated Purchase Price for all Shares as to which this Warrant is exercised.

(b) Net Exercise.

(1) In lieu of exercising this Warrant by payment in cash, or by check or wire transfer, the Holder may elect to receive Shares equal to the value of this Warrant (or the portion thereof being exercised), at any time after the date hereof and before the end of the Warrant Expiration Date, by surrender of this Warrant at the principal executive office of the Company, together with the Notice of Exercise in the form annexed hereto, in which event the Company will issue to the Holder a number of Shares computed in accordance with the following formula:

$$X = \frac{Y \times (A-B)}{A}$$

Where,	X	=	the number of Shares to be issued to Holder pursuant to this net exercise;
	Y	=	the number of Shares for which the net exercise election is made;
	A	=	the fair market value of one Share at the time the net exercise election is made; and
	B	=	the Stated Purchase Price (as adjusted at the date of the net exercise election is made).

(2) For purposes of this Section 1(b), the fair market value of a Share and the effectiveness of the exercise of this Warrant are determined as follows:

(i) if the exercise is in connection with an initial public offering, and if the Company's registration statement relating to such offering has been declared effective by the Securities and Exchange Commission, then the fair market value shall be the initial "Price to Public" specified in the final prospectus with respect to the offering (net of applicable underwriting commissions), and such exercise shall be effected upon the date of such initial public offering, subject to due, proper and prior surrender of this Warrant and the closing of the initial public offering;

(ii) if the exercise is in connection with a Change of Control, then the fair market value shall be the value received by the holders of Shares pursuant to the Change of Control for each share of such securities, and the exercise shall be effective upon the closing of such Change of Control, subject to due, proper and prior surrender of this Warrant and the closing of the Change of Control; or

(iii) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are traded on a securities exchange or through the Nasdaq Global Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange over the thirty (30) day period ending three (3) days prior to the net exercise election; or

(iv) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the thirty (30) day period ending three (3) days prior to the net exercise; or

(v) if the exercise is other than in connection with subsections (i) or (ii) above and the Shares are not traded on the over-the-counter market or on an exchange, the fair market value shall be determined in good faith by the Company's Board of Directors (the "Board").

For purposes of this Warrant, A "Change of Control" shall mean any acquisition of capital stock of the Company, directly or indirectly, any merger, tender offer, recapitalization or asset sale pursuant to which the Company's stockholders immediately prior to such transaction hold less than 50% of the voting securities of the surviving corporation immediately after such transaction or the majority of the assets of the Company are transferred or sold, except that any internal restructuring or re-organization of the Company that does not change the effective ultimate ownership of the Company shall not be deemed a Change of Control.

(c) Issuance of Shares. Upon receipt of the documents and payments described in Section 1(a), the Company shall, as promptly as practicable, execute or cause to be executed, and deliver to Holder a certificate or certificates representing the aggregate number of full Shares issuable upon such exercise, together with an amount in cash in lieu of any fraction of a Share, as hereinafter provided. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of said certificate or certificates, deliver to the Holder a new Warrant evidencing the rights of Holder to purchase the unpurchased Shares, which new Warrant shall in all other respects be identical with this Warrant.

2. Reservation of Shares. The Company covenants that it will at all times until the Warrant Expiration Date reserve and keep available out of its authorized and unissued Common Stock (or other securities of the Company, as applicable), solely for the purpose of issue upon exercise of this Warrant such number of shares of Common Stock (or other securities of the Company, as applicable) as shall then be issuable upon the exercise of this Warrant.

3. Loss or Mutilation. Upon receipt of evidence satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant (including a reasonably detailed affidavit with respect to the circumstances of any loss, theft or destruction of such Warrant), and, in the case of any such mutilation, upon surrender and cancellation of this Warrant, the Company, at Holder's expense, will execute and deliver, in lieu hereof, a new Warrant of like tenor.

4. Adjustments to Shares and Stated Purchase Price.

(a) If the Company at any time after the date hereof through the Warrant Expiration Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of Common Stock into a greater number of shares, the Stated Purchase Price

in effect immediately prior to such subdivision will be proportionately reduced and the number of shares issuable upon exercise of this Warrant will be proportionately increased, and if the Company at any time combines (by reverse stock split, recapitalization or otherwise) its outstanding shares of Common Stock into a smaller number of shares, the Stated Purchase Price in effect immediately prior to such combination will be proportionately increased and the number of shares issuable upon exercise of this Warrant will be proportionately decreased. If the Company at any time shall, by combination, reclassification, exchange or subdivision of securities or otherwise, change any of the securities as to which purchase rights under this Warrant exist into the same or a different number of securities of any other class or classes, this Warrant shall thereafter represent the right to acquire such number and kind of securities as would have been issuable as the result of such change with respect to the securities which were subject to the purchase rights under this Warrant immediately prior to such combination, reclassification, exchange, subdivision or other change.

(b) When any adjustment is required to be made in the number or kind of Shares purchasable upon exercise of this Warrant, or the Stated Purchase Price, the Company shall promptly notify the Holder in writing of such event, of the number and description of Shares thereafter purchasable upon exercise of this Warrant, and of the revised Stated Purchase Price.

5. Fractional Shares. No fractional Shares shall be issued upon the exercise of this Warrant, but, instead of any fraction of a Share which would otherwise be issuable, the Company shall pay a cash adjustment in respect of such fraction in an amount equal to the same fraction of the fair market value per share of Common Stock (or other securities, as applicable) as of the close of business on the date of the notice required by Section 1 above, determined in good faith by the Board.

6. Warrant Not Transferable. This Warrant is only exercisable by Holder and it is not transferable to any other party.

7. Agreements. As a condition precedent to any exercise of this Warrant, Holder understands and agrees that it may be required to execute certain documents and agreements (in Company standard form) relating to the purchase and sale of Shares, as well as right of first refusal, co-sale and voting rights agreements, if applicable, which all other purchasers of the same class of shares are required to execute. Upon the execution and delivery of such documents and agreements, Holder will become a party to, and bound by, such agreements, as so amended or restated, as to the securities acquired upon exercise of this Warrant.

8. Holder's Representations and Warranties. Holder, by acceptance hereof, hereby represents as follows:

(a) Investment Purpose. The right to acquire Shares (and the Shares) issuable upon exercise of the Holder's rights contained herein will be acquired for investment and not with a view to the sale or distribution of any part thereof, and the Holder has no present intention of selling or engaging in any public distribution of the same except pursuant to a registration or exemption.

(b) Private Issue. The Holder understands (i) that the Shares issuable upon exercise of this Warrant are not registered under the Securities Act or qualified under applicable state securities laws on the ground that the issuance contemplated by this Warrant will be exempt from the registration and qualifications requirements thereof, and (ii) that the Company's reliance on such exemption is predicated on the representations of Holder herein.

(c) Financial Risk. The Holder has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of its investment, and has the ability to bear the economic risks of its investment.

(d) Risk of No Registration. The Holder understands that if the Company does not register pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (the "1934 Act"), or file reports pursuant to Section 15(d) of the 1934 Act, or if a registration statement covering the securities under the Securities Act is not in effect when it desires to sell the securities issuable upon exercise of this Warrant, it may be required to hold such securities for an indefinite period. The Holder also understands that any sale of securities issued or issuable hereunder which might be made by it in reliance upon Rule 144 under the Securities Act may be made only in accordance with the terms and conditions of that Rule.

(e) Accredited Investor. Holder is an "accredited investor" within the meaning of Rule 501 of Regulation D, promulgated under the Securities Act, as presently in effect.

9. Company's Representations and Warranties. The Company hereby represents and warrants to Holder as follows:

(a) Due Authorization. This Warrant has been duly authorized, executed and delivered by the Company and constitutes the valid and binding obligation of the Company, enforceable in accordance with its terms.

(b) Status of Shares; Price. The Shares purchased by Holder upon any exercise of this Warrant in accordance with its terms will be, when issued by the Company, duly authorized, validly issued, fully paid in compliance with applicable securities laws (assuming the accuracy of the Holder's representations and warranties herein) and nonassessable.

10. Holder Not Deemed Stockholder. Holder will not, as such, be entitled to vote or to receive dividends or be deemed the holder Shares that may at any time be issuable upon exercise of this Warrant for any purpose whatsoever, nor shall anything contained herein be construed to confer upon Holder, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to receive dividends or subscription rights, until Holder shall have exercised this Warrant and been issued Shares in accordance with the provisions hereof. Subject to applicable law, any right not specifically granted hereunder to Holder is hereby disclaimed by the Company.

11. Modification of Warrant. This Warrant shall not be modified, supplemented or altered in any respect except with the consent in writing of the Holder and the Company.

12. Notices. All demands, notices and communications relating to this Warrant shall be in writing and (i) sent by registered or certified mail, postage prepaid, return receipt requested, (ii) hand delivered, (iii) sent by express mail or other reasonable overnight delivery service, or (iv) sent by telecopy, as follows (or to such other address as to which notice may be given hereunder by the party entitled to receipt of notice):

If to the Company:

Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attention: Eric K. Olson
Chief Executive Officer
Telephone: (801) 839-3500
Telecopy: (801) 839-3605

13. Governing Law. This Warrant shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles.

14. Jurisdiction. Each of the Company and the Holder hereby irrevocably submits to the jurisdiction of any Utah State or Federal court sitting in Salt Lake City in any action or proceeding arising out of or relating to this Warrant, and each of the Company and the Holder hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such Utah State court or in such Federal court. Each of the Company and the Holder hereby irrevocably waives, to the fullest extent permitted under applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding. Each of the Company and the Holder irrevocably consents, to the fullest extent permitted under applicable law, to the service of any summons and complaint and any other process by the mailing of copies of such process to them at their respective address specified in Section 12 hereof. Each of the Company and the Holder hereby agrees, to the fullest extent permitted under applicable law, that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

15. Waiver of Jury Trial. **TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAW, EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS WARRANT.**

16. Miscellaneous. The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

[*signature page follows*]

IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Shares of Common Stock to be duly executed as of , 2013.

AMEDICA CORPORATION

By: ______________________________
Name: Eric K. Olson
Title: Chief Executive Officer

EXHIBIT A

EXERCISE FORM
(To be signed only on exercise of Warrant)

Amedica Corporation,
1885 West 2100 South
Salt Lake City, UT 84119

The undersigned hereby irrevocably elects to exercise the right to purchase represented by the within Warrant for, and to purchase thereunder, shares of the stock provided for therein, and requests that certificates for such shares be issued in its name, and, if said number of shares shall not be all the shares purchasable thereunder, that a new Warrant for the balance remaining of the shares be issued to it.

In connection with this exercise, attached please find all documents required to be signed by the undersigned as per the terms of the Warrant, all duly executed by the undersigned and binding thereupon.

Name of Holder: ______________________________

Signature: ______________________________

Position of Signatory: ______________________________

Date: ______________________________

Exhibit 10.1

LOAN AND SECURITY AGREEMENT

THIS LOAN AND SECURITY AGREEMENT, dated as of December 17, 2012 (as amended, restated, supplemented or otherwise modified from time to time, this "Agreement"), is among General Electric Capital Corporation ("GECC"), in its capacity as administrative and collateral agent for Lenders (together with its successors and assigns in such capacity, "Agent"), the financial institutions who are or hereafter become parties to this Agreement as lenders (together with GECC, collectively the "Lenders", and each individually, a "Lender"), Amedica Corporation, a Delaware corporation ("Borrower"), and the other Persons (as defined below), if any, who are or hereafter become parties to this Agreement as guarantors (each a "Guarantor" and collectively, the "Guarantors", and together with Borrower, each a "Loan Party" and collectively, "Loan Parties").

Loan Parties, Agent and Lenders agree as follows:

1. DEFINITIONS.

1.1 **Defined Terms.** Capitalized terms used herein shall have the meanings set forth in Section 11. All other capitalized terms used but not defined herein shall have the meaning given to such terms in the UCC. Any accounting term used but not defined herein shall be construed in accordance with GAAP and all calculations shall be made in accordance with GAAP. The term "financial statements" shall include the accompanying notes and schedules.

1.2 **Section References.** Any section, subsection, schedule or exhibit references are to this Agreement unless otherwise specified.

2. THE LOANS.

2.1 **Loan Commitments**.

(a) Term Loan Commitment.

(i) Subject to the terms and conditions of this Agreement and in reliance upon the representations and warranties of the Loan Parties contained herein, each Lender with a Term Loan Commitment severally and not jointly agrees to make a loan (the "Term Loan") in Dollars to Borrower on the Closing Date, in an amount equal to such Lender's Term Loan Commitment. Upon the funding of such Term Loan, the Term Loan Commitment shall terminate.

(ii) Once the Term Loan is repaid or prepaid, it cannot be reborrowed.

(iii) The Term Loan made by each Lender is evidenced by this Agreement, and if requested by such Lender, a Note payable to such Lender.

(b) Revolving Loan Commitments.

(i) Subject to the terms and conditions of this Agreement and in reliance upon the representations and warranties of the Loan Parties contained herein, each Lender with a Revolving Loan Commitment severally and not jointly agrees to make loans (each such loan, a "Revolving Loan" and collectively, the "Revolving Loans") in Dollars to Borrower on any Business Day during the period from the Closing Date to but not including the Revolving Loan Commitment Termination Date, in an aggregate amount not to exceed at any time outstanding such Lender's Revolving Loan Commitment; provided, however, that, after giving effect to any advance of Revolving Loans, the aggregate principal amount of all outstanding Revolving Loans shall not exceed the Maximum Revolving Loan Balance. Subject to the other terms and conditions hereof, amounts borrowed under this Section 2.1(b) may be repaid and reborrowed from time to time. The "Maximum Revolving Loan Balance" from time to time will be the lesser of: (x) the Borrowing Base (as calculated pursuant to the most recent Borrowing Base Certificate) in effect from time to time, or (y) the aggregate amount of the Revolving Loan Commitments then in effect, in each case less those Reserves imposed by Agent in its Permitted Discretion. Agent, in

its sole credit judgment, may from time to time adjust the Borrowing Base by applying percentages (known as "liquidity factors") to Eligible Accounts by payor class based upon Borrowers' actual recent collection history for each such payor class in a manner consistent with Agent's underwriting practices and procedures.

(ii) The Revolving Loans made by each Lender are evidenced by this Agreement, and if requested by such Lender, a Note payable to such Lender.

2.2 **Borrowing and Funding Procedures**.

(a) Borrowing Procedures.

(i) Revolving Loans.

(1) Each advance of a Revolving Loan shall be made upon Borrower's irrevocable written notice delivered to Agent, which notice shall be in form acceptable to Agent and, except for the advance to be made on the Closing Date, must be received by Agent prior to 2:00 p.m. (New York time) on the date which is three (3) Business Days prior to the requested date for such Revolving Loan. Such notice shall specify:

(A) the amount of the requested Revolving Loan (which shall be in an aggregate minimum principal amount of $100,000); and

(B) the requested borrowing date of such Revolving Loan, which shall be a Business Day.

(2) Promptly after receiving such notice for a Revolving Loan, Agent shall notify each Lender of the contents of such notice and of the amount of such Lender's Pro Rata Share of such Revolving Loan.

(ii) Agent and Lenders may act without liability upon the basis of any written notice reasonably believed by Agent to be from any authorized officer of Borrower. Agent and Lenders shall have no duty to verify the authenticity of the signature appearing on any such written notice.

(b) Funding Procedures**.** Upon the terms and subject to the conditions set forth herein, each Lender, severally but not jointly, shall make available to Agent its Pro Rata Share of the requested Term Loan or Revolving Loan, as applicable, in Dollars in immediately available funds, to the Collection Account prior to 11:00 a.m. (New York time) on the date specified for the Term Loan or Revolving Loan. Unless Agent shall have determined that any of the conditions set forth in Section 4.1 or 4.2, as applicable, have not been satisfied, Agent shall credit the amounts received by it in like funds to Borrower (net of any amounts due and payable to or on behalf of Agent and/or Lenders) on such day by wire transfer to the following deposit account of Borrower (unless Agent is otherwise directed in writing by Borrower):

Bank Name: Zions First National Bank
Bank Address: One South Main Street, Suite 300
Salt Lake City, UT 84111
ABA#: 124 000 054
Account #: 002 26 3598
Account Name: Operating Account
Ref: Amedica

2.3 **Interest**.

(a) Term Loan. The Term Loan shall accrue interest in arrears from the date made until such Term Loan is fully repaid at a fixed per annum rate of interest equal to seven and one half of one percent (7.50%).

(b) Revolving Loans. Each Revolving Loan shall accrue interest in arrears from the date made until such Revolving Loan is fully repaid at a floating per annum rate of interest equal to the Reference Rate plus five and one-half of one percent (5.50%) per annum.

(c) Computation. All computations of interest and fees calculated on a per annum basis shall be made by Agent on the basis of a three hundred sixty (360) day year, in each case for the actual number of days occurring in the period for which such interest and fees are payable. Such method of calculation will result in an effective rate that exceeds the rate stated in this Section. Each determination of an interest rate or the amount of a fee under the Loan Documents shall be made by Agent and shall be conclusive, binding and final for all purposes, absent manifest error.

(d) Default Rate. All Loans and other Obligations shall bear interest from and after the occurrence and during the continuation of an Event of Default at a rate equal to the Default Rate. The application of the Default Rate shall not be interpreted or deemed to extend any cure period or waive any Default or Event of Default or otherwise limit Agent's or any Lender's right or remedies hereunder. All interest payable at the Default Rate shall be payable on demand.

(e) Maximum Lawful Rate. Anything herein or any other Loan Document to the contrary notwithstanding, the obligations of Loan Parties hereunder and thereunder shall be subject to the limitation that payments of interest shall not be required, for any period for which interest is computed hereunder, to the extent (but only to the extent) that contracting for or receiving such payment by Agent and Lenders would be contrary to the provisions of any Requirement of Law applicable to Agent and Lenders limiting the highest rate of interest which may be lawfully contracted for, charged or received by Agent and Lenders, and in such event Loan Parties shall pay Agent and Lenders interest at the highest rate permitted by applicable Requirements of Law ("Maximum Lawful Rate"); provided, however, that if at any time thereafter the rate of interest payable hereunder or thereunder is less than the Maximum Lawful Rate, Loan Parties shall continue to pay interest hereunder and thereunder at the Maximum Lawful Rate until such time as the total interest received by Agent and Lenders is equal to the total interest that would have been received had the interest payable hereunder been (but for the operation of this paragraph) the interest rate payable since the making of the Initial Loans as otherwise provided in this Agreement or any other Loan Document.

2.4 **Payments**.

(a) Interest Payments. For each Loan, Borrower shall pay interest to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, at the rate of interest for such Loan determined in accordance with Section 2.3 in arrears on each Scheduled Payment Date, commencing on the first day of the calendar month occurring after the month during which such Loan was made.

(b) Principal Payments.

(i) Term Loan. For the Term Loan, Borrower shall pay principal to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, in thirty-six (36) (the "Number of Payments") equal consecutive payments of $500,000 (the "Monthly Amortization Amount") on each Scheduled Payment Date, commencing on July 1, 2013 (the "Initial Principal Payment Date") and one final payment in an amount equal to the entire remaining principal balance of the Term Loan on the Final Maturity Date; provided, however, if a Liquidity Event has occurred and Borrower delivers a written request to Agent requesting an extension of the Initial Principal Payment Date, each on or before June 24, 2013, then, provided no Default or Event of Default shall have occurred and be continuing on the Initial Principal Payment Date, the "Number of Payments" shall be reduced to thirty (30), the "Monthly Amortization Amount" shall be increased to $600,000 and, the "Initial Principal Payment Date" shall be extended to January 1, 2014.

(ii) Revolving Loans. Borrower shall repay in full on the date specified in clause (a) of the definition of "Revolving Loan Commitment Termination Date" the aggregate principal amount of the Revolving Loans outstanding on the Revolving Loan Commitment Termination Date.

(c) Maturity. Notwithstanding the foregoing provisions of Section 2.4(b), all outstanding Obligations are due and payable in full on the earlier of (i) the Final Maturity Date or (ii) the date that the Loans otherwise become due and payable hereunder, whether by acceleration of the Obligations pursuant to Section 8.2 or otherwise.

(d) Method of Payments. All payments (including prepayments) to be made by any Loan Party under any Loan Document shall be made by wire transfer or ACH transfer in immediately available funds (which shall be the exclusive means of payment hereunder) in Dollars, without setoff, recoupment, counterclaim or deduction of any kind, to the Collection Account before 2:00 p.m. (New York time) on the date when due. All payments received by Agent after 2:00 p.m. (New York time) on any Business Day or at any time on a day that is not a Business Day may, in Agent's sole discretion, be deemed to be received on the next Business Day. Whenever any payment required under any Loan Document would otherwise be due on a date that is not a Business Day, such payment shall instead be due on the next Business Day, and additional fees or interest, as the case may be, shall accrue and be payable for the period of such extension. All payments of interest and principal due to Agent and Lenders on a Scheduled Payment Date under Section 2.4(a) and (b) shall be effected by automatic debit of the appropriate funds from Borrower's operating account specified on the Automatic Payment Authorization Agreement.

(e) Withholdings and Increased Costs.

(i) All payments by any Loan Party under any Loan Document shall be made free and clear of all Indemnified Taxes. If any Indemnified Taxes shall be required by any Requirement of Law to be withheld or deducted from or in respect of any sum payable under any Loan Document to Agent or any Lender, (A) an additional amount shall be payable as may be necessary so that, after making all required withholdings or deductions (including withholdings or deductions applicable to additional sums payable under this Section), Agent or such Lender receives an amount equal to the sum it would have received had no such withholdings or deductions been made, (B) Loan Parties shall make such withholdings or deductions, (C) Loan Parties shall pay the full amount withheld or deducted to the relevant taxing authority or other authority in accordance with any applicable Requirement of Law, and (D) Loan Parties shall deliver to Agent or such Lender evidence of such payment.

(ii) If the introduction of or any change in, after the Closing Date, any Requirement of Law increases Agent's or any Lender's costs or reduces its income for any Loan, then Borrower shall upon provision of reasonable evidence of such increase or decrease and ten (10) days written notice by Agent or such Lender (with a copy of such demand to Agent) promptly pay to Agent for its own account or for the account of such Lender, as the case may be, the increase in cost or reduction in income or additional expense; provided that all requests, rules, guidelines or directives issued or promulgated under, in connection with or pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act or Basel III shall be deemed to be a change in a Requirement of Law, regardless of the date enacted, adopted or issued. The Agent or such Lender (with a copy to Agent) shall submit a certificate as to the amount of such reduction or such increased cost to Borrower, provided that, neither Agent nor any Lender shall be entitled to payment of any amounts under this Section 2.4(e) relating to periods prior to 180 days before the date Agent or such Lender sends the Certificate. Agent and each Lender agrees that it shall allocate any such increased costs among its customers similarly affected in good faith and in a manner consistent with Agent's or such Lender's customary practice.

(f) Loan Account. Agent, on behalf of the Lenders, shall record on its books and records the amount of each Loan made, the interest rate applicable, all payments of principal and interest thereon and the principal balance thereof from time to time outstanding. Such record shall, absent manifest error, be conclusive evidence of the amount of the Loans made by the Lenders to Borrower and the interest and payments thereon. Any failure to so record or any error in doing so shall not, however, limit or otherwise affect the obligation of Borrower hereunder (and under any Note) to pay any amount owing with respect to the Loans or provide the basis for any claim against Agent.

(g) Payment of Obligations. Without limiting Section 2.4(d), Agent is authorized to, and at its sole election may, debit funds from Borrower's operating account specified in the Automatic Payment Authorization Agreement to pay all Obligations under any Loan Document if and to the extent Borrower fails to promptly pay any such amounts as and when due. In addition to the foregoing, Borrower hereby authorizes Agent and each Revolving Lender to make a Revolving Loan to pay all Obligations under any Loan Document on or after the due date, even if the result thereof would cause the outstanding principal balance of the Revolving Loans to exceed the Maximum Revolving Loan Balance at such time.

2.5 **Prepayments and Commitment Terminations**.

(a) Voluntary Prepayments and Commitment Terminations. Borrower may, without premium or penalty, upon five (5) Business Days' prior written notice to Agent, (i) voluntarily prepay the Term Loan in full, but not in part, or (ii) terminate (but not reduce in part) the Revolving Loan Commitments. Upon any such termination of the Revolving Loan Commitments, Borrower's right to request Revolving Loans shall automatically be terminated.

(b) Mandatory Prepayments.

(i) Revolving Loan Commitment Termination. If Borrower terminates the Revolving Loan Commitments pursuant to Section 2.5(a), or if the Revolving Loan Commitments are terminated under Section 8.2 or otherwise, then Borrower shall immediately pay all Obligations in full.

(ii) Maximum Revolving Loan Balance. If at any time the then aggregate outstanding principal balance of Revolving Loans exceeds the Maximum Revolving Loan Balance, then Borrower shall immediately prepay outstanding Revolving Loans in an amount sufficient to eliminate such excess.

(c) Term Loan Prepayment Amounts**.** Upon the date of (i) any voluntary prepayment of the Term Loan in accordance with Section 2.5(a) or (ii) any mandatory prepayment of the Term Loan required under this Agreement (whether pursuant to Section 2.5(b)(i), by acceleration of the Obligations pursuant to Section 8.2 or otherwise), Borrower shall pay to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, a sum equal to all outstanding principal and all accrued interest thereon and other Obligations with respect to the Term Loan.

2.6 **Lender Fees**.

(a) Closing Fee. On the Closing Date, Borrower shall pay to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, a non-refundable closing fee in an amount equal to $107,500, which fee shall be fully earned when paid.

(b) Unused Revolving Commitment Fee. Borrower shall pay to Agent a fee (the "Unused Revolving Commitment Fee") for the account of each Revolving Lender in an amount equal to: (i) the average daily balance of the Revolving Loan Commitment of such Revolving Lender during the preceding calendar month, less (ii) the average daily balance of all Revolving Loans held by such Revolving Lender; multiplied by (iii) three-quarters of one percent (0.750%) per annum. The total fee paid by Borrower will be equal to the sum of all of the fees due to the Revolving Lenders. Such fee shall be payable monthly in arrears on the first day of each calendar month following the Closing Date. The Unused Revolving Commitment Fee provided in this Section 2.6(b) shall accrue at all times from and after the execution and delivery of this Agreement. For purposes of this Section 2.6(b), the Revolving Loan Commitment of any Non-Funding Lender shall be deemed to be zero.

(c) Fee Letter. Borrower shall pay to Agent (or its Affiliates) the fees specified in the Fee Letter.

2.7 **Authorization and Issuance of the Warrants**. Borrower has duly authorized the issuance to each Term Loan Lender (or its respective Affiliate or designee) of Warrants evidencing each Term Loan Lender's (or its respective Affiliate's or designee's) right to acquire its respective Pro Rata Share of 270,000 shares of Series F preferred stock of Borrower at an exercise price of $2.00 per share. The exercise period shall expire ten (10) years from the date such Warrants are issued**.**

2.8 **Eligible Accounts**. All of the Accounts owned by each Loan Party and properly reflected as "Eligible Accounts" in the most recent Borrowing Base Certificate delivered by Borrower to Agent shall be "Eligible Accounts" for purposes of this Agreement, except any Account to which any of the exclusionary criteria set forth below applies. Agent shall have the right to establish, modify or eliminate Reserves against Eligible Accounts from time to time in its Permitted Discretion. In addition, Agent reserves the right, at any time and from time to time after the Closing Date, in its Permitted Discretion, to adjust any of the applicable criteria and to establish new criteria and to adjust advance rates with respect to Eligible Accounts, subject to the approval of Requisite Lenders in the case of adjustments, new criteria or changes in advance rates which have the effect of making more credit available. Eligible Accounts shall not include the following Accounts of a Loan Party:

(a) Past Due Accounts. Accounts that are not paid within the earlier of sixty (60) days following its due date or ninety (90) days following its original invoice date;

(b) Cross Aged Accounts. Accounts that are the obligations of an Account Debtor if fifty percent (50%) or more of the Dollar amount of all Accounts owing by such Account Debtor are ineligible under the other criteria set forth in this Section 2.8;

(c) Foreign Accounts. Accounts that are the obligations of an Account Debtor located in a foreign country unless payment thereof is assured by a letter of credit assigned and delivered to Agent, reasonably satisfactory to Agent as to form, amount and issuer;

(d) Government Accounts. Accounts that are the obligation of an Account Debtor that is the United States government or a political subdivision thereof, or any state, county or municipality or department, agency or instrumentality thereof unless Agent, in its sole discretion, has agreed to the contrary in writing, or the applicable Loan Party has complied with respect to such obligation with the Federal Assignment of Claims Act of 1940, or any applicable state, county or municipal law restricting the assignment thereof with respect to such obligation;

(e) Contra Accounts. Accounts to the extent any Loan Party or any Subsidiary thereof is liable for goods sold or services rendered by the applicable Account Debtor to any Loan Party or any Subsidiary thereof but only to the extent of the potential offset;

(f) Chargebacks/Partial Payments/Disputed. Any Account to the extent that any defense, counterclaim, setoff or dispute is asserted as to such Account;

(g) Inter-Company/Affiliate Accounts. Accounts that arise from a sale or provision of services to any Affiliate of any Loan Party;

(h) Concentration Risk. Accounts to the extent that such Account, together with all other Accounts owing by such Account Debtor and its Affiliates as of any date of determination exceed twenty percent 20% of all Eligible Accounts but only to the extent such Accounts exceed 20% of Eligible Accounts;

(i) Credit Risk. Accounts that are otherwise determined to be unacceptable by Agent in its Permitted Discretion, upon the delivery of prior or contemporaneous notice (oral or written) of such determination to Borrower;

(j) Pre-Billing. Accounts with respect to which an invoice, reasonably acceptable to Agent in form and substance, has not been sent to the applicable Account Debtor;

(k) Defaulted Accounts; Bankruptcy. Accounts where:

(i) the Account Debtor obligated upon such Account suspends business, makes a general assignment for the benefit of creditors or fails to pay its debts generally as they come due; or

(ii) a petition is filed by or against any Account Debtor obligated upon such Account under any bankruptcy law or any other federal, state or foreign (including any provincial) receivership, insolvency relief or other law or laws for the relief of debtors;

(l) Employee Accounts. Accounts that arise from a sale or provision of services to any director, officer, other employee, or to any entity that has any common officer or director with any Loan Party;

(m) Progress Billing. Accounts (i) as to which a Loan Party is not able to bring suit or otherwise enforce its remedies against the Account Debtor through judicial process, or (ii) if the Account represents a progress billing consisting of an invoice for goods sold or used or services rendered pursuant to a contract under which the Account Debtor's obligation to pay that invoice is subject to a Loan Party's completion of further performance under such contract or is subject to the equitable lien of a surety bond issuer;

(n) Bill and Hold. Accounts that arise with respect to goods that are delivered on a bill-and-hold basis;

(o) C.O.D.. Accounts that arise with respect to goods that are delivered on a cash-on-delivery basis;

(p) Credit Limit. Accounts to the extent such Account exceeds any credit limit established by Agent, in its Permitted Discretion, following prior notice of such limit by Agent to Borrower;

(q) Non-Acceptable Currency. Accounts that are payable in any currency other than Dollars;

(r) Other Liens Against Receivables. Accounts that (i) are not owned by a Loan Party or (ii) are subject to any right, claim, Lien or other interest of any other Person, other than Liens in favor of Agent, securing the Obligations;

(s) Conditional Sale. Accounts that arise with respect to goods that are placed on consignment, guarantied sale or other terms by reason of which the payment by the Account Debtor is conditional;

(t) Judgments, Notes or Chattel Paper. Accounts that are evidenced by a judgment, Instrument or Chattel Paper;

(u) Not Bona Fide. Accounts that are not true and correct statements of bona fide indebtedness incurred in the amount of such Account for merchandise sold to or services rendered and accepted by the applicable Account Debtor;

(v) Ordinary Course; Sales of Equipment or Bulk Sales. Accounts that do not arise from the sale of goods or the performance of services by a Loan Party in good faith in the ordinary course of business and consistent with past practice, including, without limitation, bulk sales; or

(w) Not Perfected. Accounts as to which Agent's Lien thereon, on behalf of itself and the other Lenders, is not a first priority perfected Lien.

(x) Private Payor**.** Accounts from an Account Debtor that is an individual Person.

3. CREATION OF SECURITY INTEREST.

3.1 **Grant of Security Interest**. As security for the prompt and complete payment and performance when due, whether at the stated maturity, by acceleration or otherwise, of all Obligations, and as security for the prompt and complete payment and performance when due by each Guarantor of the Guaranteed Obligations (as defined in the Guaranty), each Loan Party hereby grants to Agent, for the benefit of Agent and Lenders, a lien on and security interest in all of its right, title and interest in, to and under the following Property:

All of such Loan Party's personal property of every kind and nature whether now owned or hereafter acquired by, or arising in favor of, such Loan Party, and regardless of where located,

including, without limitation, all of such Loan Party's Accounts, Chattel Paper (whether tangible or electronic), Commercial Tort Claims, Deposit Accounts, Documents, Equipment, Financial Assets, Fixtures, Goods, Instruments, Investment Property (including, without limitation, all Securities Accounts), Inventory, Letter-of-Credit Rights, letters of credit, Securities, Supporting Obligations, cash, Cash Equivalents, any other contract rights (including, without limitation, rights under any license agreements, leases, and franchise agreements or rights to the payment of money), General Intangibles (including, without limitation, Intellectual Property), all books and records of such Loan Party relating to each of the foregoing, and all additions, attachments, accessories, accessions and improvements to such Property, all substitutions, replacements or exchanges therefor, and all Proceeds, insurance claims, products, profits and other rights to payments not otherwise included in the foregoing; provided, that, the grant of security interest herein shall not extend to and the term "Collateral" shall not include equipment subject to liens permitted pursuant to Section 7.1 where the agreements governing the capital lease obligations or purchase money Indebtedness related thereto prohibit such security interest, for so long as such prohibition exists.

Each Loan Party hereby represents and covenants that such security interest constitutes a valid, first priority perfected security interest in the Collateral in existence on the Closing Date, and will constitute a valid, first priority perfected security interest in Collateral acquired after the Closing Date. Each Loan Party hereby covenants that it shall give written notice to Agent promptly upon the acquisition by such Loan Party or creation in favor of such Loan Party of any commercial tort claim. In order to perfect or protect Agent's security interest and other rights in each Loan Party's Intellectual Property, each Loan Party hereby authorizes Agent to file, as applicable and in each case in form and substance reasonably satisfactory to Agent, a patent security agreement and/or a trademark security agreement, to be filed with the United States Patent and Trademark Office, and a copyright security agreement to be filed with the United States Copyright Office (each of the foregoing, an "Intellectual Property Security Agreement").

3.2 **Financing Statements**. Each Loan Party hereby authorizes Agent to file UCC financing statements in all appropriate jurisdictions and amendments thereto describing the Collateral as "all assets of the debtor" or words of similar import and containing any other information required by the applicable UCC to perfect Agent's security interest (for the benefit of itself and the Lenders) granted hereby.

3.3 **Termination of Security Interest**. Upon the Termination Date, (a) Agent's lien on and security interest in the Collateral shall be automatically terminated without delivery of any instrument or performance of any act and (b) at the request of any Loan Party, Agent shall, at the Loan Parties' sole cost and expense and without any recourse, representation or warranty, execute and deliver to such Loan Party such documents as such Loan Party shall reasonably request to evidence such termination.

4. CONDITIONS OF CREDIT EXTENSIONS.

4.1 **Conditions Precedent to Initial Loans.** No Lender shall be obligated to make its Pro Rata Share of the Initial Loans, or to take, fulfill, or perform any other action hereunder, until the following have been delivered to Agent, in form and substance satisfactory to Agent and Lenders (the date on which Lenders make the Initial Loans, the "Closing Date"):

(a) a counterpart of this Agreement duly executed by each Loan Party, each Lender and Agent;

(b) a certificate duly executed by the Secretary or Assistant Secretary of each Loan Party, the form of which is attached as Exhibit A, providing verification of incumbency and certifying as to and attaching (i) such Loan Party's board resolutions approving the transactions contemplated by the Loan Documents and (ii) such Loan Party's formation documents certified by the Secretary of State of such Loan Party's state of formation as of a recent date acceptable to Agent and such Loan Party's governing documents;

(c) Notes duly executed by Borrower in favor of each Lender that has requested a Note;

(d) filed copies of UCC financing statements, collateral assignments, and termination statements, with respect to the Collateral, as Agent shall request;

(e) certificates of insurance evidencing the insurance coverage and satisfactory additional insured and lender loss payable endorsements, in each case as required pursuant to Section 6.4;

(f) certified copies, dated as of a recent date acceptable to Agent, of UCC, judgment, bankruptcy and tax lien search results demonstrating that there are no Liens on the Collateral other than Permitted Liens;

(g) a certificate of status/good standing of each Loan Party from the jurisdiction of such Loan Party's organization and a certificate of foreign qualification from each jurisdiction where such Loan Party's failure to be so qualified could reasonably be expected to have a Material Adverse Effect, in each case certified as of a recent date acceptable to Agent;

(h) an Access Agreement for each leased location or third party location to the extent required pursuant to Section 6.6, subject to the post closing requirements of Schedule 6.13;

(i) an executed legal opinion of Loan Parties' counsel, in form and substance satisfactory to Agent;

(j) an Automatic Payment Authorization Agreement, duly executed by Borrower;

(k) a Perfection Certificate completed and duly executed by each Loan Party;

(l) a Disbursement Letter, duly executed by each Loan Party, Agent and Lenders;

(m) one or more Account Control Agreements, duly executed by the applicable Loan Parties and the applicable depository or financial institution, to the extent required pursuant to Section 6.10;

(n) a lockbox agreement, duly executed by the applicable Loan Parties and the applicable depository or financial institution, to the extent required pursuant to Section 6.10;

(o) a Pledge Agreement, duly executed by each Loan Party, together with the certificates and instruments required to be delivered in connection therewith and related undated powers and endorsements duly executed in blank;

(p) a Guaranty Agreement, duly executed by each Guarantor;

(q) a Warrant in favor of each Term Loan Lender (or its Affiliate or designee) for such Term Loan Lender's Pro Rata Share of the number of shares of Stock of Borrower described in Section 2.7, duly executed by Borrower;

(r) the Intellectual Property Security Agreement required by Section 3.1, duly executed by each Loan Party;

(s) a pay-off letter satisfactory to Agent and duly executed by each of Zions First National Bank and MSK Investments, LLC, confirming that all of the Indebtedness and other obligations owed under the Existing Indebtedness (as applicable) will be repaid in full from the proceeds of the Initial Loans and all Liens upon any Loan Party's property in favor of each of Zions First National Bank and MSK Investments, LLC (as applicable) shall be terminated immediately upon such payment;

(t) evidence of the conversion of the Convertible Debt to equity of Borrower and the termination of all Liens on any Loan Party's property securing such Convertible Debt;

(u) duly executed originals of an initial Borrowing Base Certificate from Borrower, dated the Closing Date, reflecting information concerning Eligible Accounts as of November 30, 2012;

(v) all fees required to be paid by Borrower under the Loan Documents, and Borrower shall have reimbursed Agent and Lenders for all fees, costs and expenses presented as of the Closing Date; and

(w) all other documents and instruments as Agent or any Lender may reasonably deem necessary or appropriate to effectuate the intent and purpose of this Agreement.

4.2 **Conditions Precedent to All Loans.** No Lender shall be obligated to make its Pro Rata Share of any Loan, including the Initial Loans, if as of the date thereof:

(a) (i) any representation or warranty contained in any Loan Document shall be untrue, inaccurate or incomplete in any material respect (but in all respects if such representation or warranty is qualified by “material” or “Material Adverse Effect”) as of the date of such Loan (except in the case of representations or warranties made as of a specific date in which case the representations or warranties shall be true, accurate and complete in all material respects (but in all respects if such representation or warranty is qualified by “material” or “Material Adverse Effect”) as of such specific date), or (ii) any Default or Event of Default has occurred and is continuing or will result from the making of such Loan, and in the case of clauses (i) and (ii) with respect to any advance of a Revolving Loan, Agent or Requisite Lenders have determined not to make such Revolving Loan as a result of the fact that such representation or warranty is untrue, inaccurate or incomplete or as a result of that Default or Event of Default, as applicable;

(b) in Agent’s reasonable discretion, there has been a material impairment in the general affairs, management, results of operations, financial condition or the prospect of repayment of the Obligations or any material adverse deviation by Borrower from the most recent business plan of Borrower presented to and accepted by Agent;

(c) with respect to any advance of a Revolving Loan, after giving effect to such Revolving Loan, the aggregate outstanding principal amount of the Revolving Loans would exceed the Maximum Revolving Loan Balance;

(d) with respect to any advance of a Revolving Loan, Agent shall not have received a Borrowing Base Certificate, certified by Borrower’s president, chief executive officer, chief financial officer or treasurer setting forth the Borrowing Base of Borrower as at the end of the most-recently ended fiscal month or as at such other date as Agent may approve;

(e) with respect to the Initial Loans, Agent shall not have received a certificate from an authorized officer of Borrower confirming that each of the conditions in Section 4.2 applicable to funding of the Initial Loans have been satisfied; and

(f) Agent shall not have received such other documents, agreements, instruments or information as Agent shall reasonably request.

The request by Borrower and acceptance by Borrower of the proceeds of any Loan shall be deemed to constitute, as of the date thereof, (i) a representation and warranty by Borrower that the conditions in this Section 4.2 have been satisfied and (ii) a reaffirmation by each Loan Party of the granting and continuance of Agent’s Liens, on behalf of itself and the Lenders, securing the Obligations.

5. REPRESENTATIONS AND WARRANTIES OF LOAN PARTIES.

Each Loan Party, jointly and severally, represents and warrants to Agent and each Lender that:

5.1 **Due Organization and Authorization.** Each Loan Party’s exact legal name is as set forth in the Perfection Certificate, and each Loan Party is duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization as specified in the Perfection Certificate, has its chief executive office at the location specified in the Perfection Certificate, and is duly qualified and licensed in every jurisdiction wherever necessary to carry on its business and operations, except where the failure to be so qualified and licensed could not reasonably be expected to have a Material Adverse Effect. As of the Closing Date, all information set forth on the Perfection Certificate pertaining to each of the Loan Parties is accurate and complete. This Agreement and the other Loan Documents have been duly authorized, executed and delivered by each Loan Party and constitute the legal, valid and binding obligations of each such Person that is a party thereto, enforceable against such Person in accordance with their respective terms, except as enforceability may be limited by applicable bankruptcy, insolvency, or similar laws affecting the enforcement of creditors’ rights generally or by equitable principles relating to enforceability. Each Loan Party has all requisite power and authority to own its assets, carry on its business and execute, deliver and perform its obligations under the Loan Documents to which it is a party.

5.2 **No Conflicts.** The execution, delivery and performance by each Loan Party of the Loan Documents to which it is a party will not (a) contravene any of the organizational documents of such Loan Party, (b) violate any material Requirement of Law, (c) require any action by, filing, registration, qualification with, or approval, consent or withholding of objections from, any Governmental Authority or any other Person, except those which have been obtained and are in full force and effect, (d) result in the creation of any Lien on any of such Loan Party's Property (except for Liens in favor of Agent, on behalf of itself and Lenders), or (e) result in any breach of or constitute a default under, or permit the termination or acceleration of, any Material Agreement to which such Loan Party is a party. A list of all Material Agreements as of the Closing Date is set forth on Schedule 5.2 hereto. No Loan Party is in default under any agreement to which it is a party or by which it is bound which could reasonably be expected to have a Material Adverse Effect.

5.3 **Litigation.** There are no actions, suits, proceedings or investigations pending (or to the knowledge of any Loan Party, threatened) against any Loan Party or any of its Subsidiaries or their respective properties, which (a) except as set forth in the Perfection Certificate with respect to the Shappley litigation, could reasonably be expected to result in monetary judgment(s) or relief, individually or in the aggregate, in excess of $500,000, (b) seek an injunction or other equitable relief that could reasonably be expected to have a Material Adverse Effect, or (c) affect or pertain to the Loan Documents or any transaction contemplated hereby or thereby.

5.4 **Financial Statements.** All consolidated financial statements for Borrower and any of its Subsidiaries delivered to Agent or Lenders have been prepared in accordance with GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year-end audit adjustments) and fairly present in all material respects Borrower's consolidated financial condition and consolidated results of operations. Since the date of the most recent audited financial statements, no event has occurred which has had or could reasonably be expected to have a Material Adverse Effect. There has been no material adverse deviation from the most recent annual operating plan of Borrower delivered to Agent.

5.5 **Use of Proceeds; Margin Stock.** The proceeds of the Loans shall be used to repay the Existing Indebtedness and for working capital and general corporate purposes. No Loan Party and no Subsidiary of any Loan Party is engaged in the business of purchasing or selling Margin Stock or extending credit for the purpose of purchasing or carrying Margin Stock. As of the Closing Date, no Loan Party and no Subsidiary of any Loan Party owns any Margin Stock.

5.6 **Collateral.**

(a) Each Loan Party has good title to, has rights in, and the power to grant a Lien on and to Transfer each item of the Collateral upon which it purports to grant a Lien under any Loan Document, free and clear of any and all Liens except Permitted Liens. As of the Closing Date, all tangible Collateral (other than inventory or equipment in transit) is located at a location specified on the Perfection Certificate.

(b) No Loan Party owns any Stock or Stock Equivalents, except for Permitted Investments.

(c) As of the Closing Date, no Loan Party has any Deposit Accounts, Securities Accounts, commodity accounts or other investment accounts other than those described in the Perfection Certificate.

(d) As of the Closing Date, no Loan Party owns any real property.

5.7 **Compliance with Laws**.

(a) Each Loan Party is in compliance with all Requirements of Law applicable to it, except to the extent that any such non-compliance, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

(b) Without limiting the generality of the immediately preceding clause (a), each Loan Party and each Subsidiary of a Loan Party is in compliance in all material respects with all U.S. economic sanctions laws,

Executive Orders and implementing regulations as promulgated by OFAC, and all applicable anti-money laundering and counter-terrorism financing provisions of the Bank Secrecy Act and all regulations issued pursuant to it. No Loan Party nor any Affiliate of a Loan Party (i) is a Person designated by the U.S. Government on the list of the Specially Designated Nationals and Blocked Persons (the "SDN List") with which a U.S. Person cannot deal with or otherwise engage in business transactions, (ii) is a Person who is otherwise the target of U.S. economic sanctions laws such that a U.S. Person cannot deal or otherwise engage in business transactions with such Person, or (iii) is controlled by (including without limitation by virtue of such Person being a director or owning voting Stock), or acts, directly or indirectly, for or on behalf of, any Person on the SDN List or a foreign government that is the target of U.S. economic sanctions prohibitions such that the entry into, or performance under, any Loan Document would be prohibited under U.S. law.

(c) Each Loan Party and each of its Affiliates is in compliance with (i) the Trading with the Enemy Act of 1917, Ch. 106, 40 Stat. 411, as amended, and each of the foreign assets control regulations of the United States Treasury Department (31 CFR, Subtitle B Chapter V, as amended) and any other enabling legislation or executive order relating thereto, (ii) the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001, P.L. 107-56, as amended (the "Patriot Act"), and (iii) other federal or state laws relating to "know your customer" and anti-money laundering rules and regulations. No part of the proceeds of any Loan will be used directly or indirectly for any payments to any government official or employee, political party, official of a political party, candidate for political office, or anyone else acting in an official capacity, in order to obtain, retain or direct business or obtain any improper advantage, in violation of the United States Foreign Corrupt Practices Act of 1977.

(d) No Loan Party is an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940.

(e) No Property of any Loan Party has been used by any Loan Party or, to any Loan Party's knowledge, by previous Persons, in disposing, producing, storing, treating, or transporting any hazardous substance other than in material compliance with applicable Requirements of Law.

5.8 **Intellectual Property.** A list of all of each Loan Party's owned Intellectual Property (limited to clause (a) of the definition thereof, and further limited to only such Intellectual Property which is registered or for which there is an application) and all license agreements (including all in-bound license agreements, but excluding over-the-counter software that is commercially available to the public) as of the Closing Date is set forth on Schedule 5.8 hereto, which indicates, for each such item of Property: (a) the name of the Loan Party owning such Intellectual Property or licensing such Intellectual Property, (b) the Loan Party's identifier for such property (e.g., name of patent, license, etc.), (c) whether such Property is Intellectual Property (or application therefor) that is owned by such Loan Party or is licensed by such Loan Party, (d) the expiration date of such Intellectual Property or license agreement, and (e) whether such Intellectual Property is material to the condition (financial or otherwise), business or operations of any Loan Party. In the case of any Intellectual Property described in the foregoing clause (e) that is an in-bound license agreement, Schedule 5.8 further indicates, for each: (i) the name and address of the licensor, (ii) the name and date of the agreement pursuant to which such item of Intellectual Property is licensed, (iii) whether or not such license agreement grants an exclusive license to a Loan Party, (iv) whether there are any purported restrictions in such license agreement as to the ability of a Loan Party to grant a security interest in, or to Transfer any of its rights as a licensee under, such license agreement, and (v) whether a default under or termination of such license agreement could interfere with Agent's right to sell or assign such license or any other Collateral. Except as specified on Schedule 5.8, each Loan Party's Intellectual Property is valid and enforceable and each Loan Party owns or has rights to use all Intellectual Property material to the conduct of its business as now or heretofore conducted by it or proposed to be conducted by it, without such Loan Parties' Knowledge of any actual or threatened infringement, upon the rights of third parties. Except as specified on Schedule 5.8, as of the Closing Date, each Loan Party is the sole owner of its Intellectual Property, and such Intellectual Property is free and clear of all Liens, except for Liens securing the Obligations and non-exclusive licenses of Intellectual Property granted by a Loan Party to third parties in the ordinary course of its business. Except as specified on Schedule 5.8, no Loan Party has entered into any agreement or financing arrangement (other than any Loan Document) prohibiting or otherwise restricting the existence of any Lien upon any of its Intellectual Property. Upon filing of the Intellectual Property Security Agreements with the United States Patent and Trademark Office and the United States Copyright Office, as applicable, and the filing of appropriate financing statements, all action necessary to perfect Agent's Lien on each Loan Party's owned Intellectual Property in the United States shall have been duly taken.

5.9 **Solvency.** Both before and after giving effect to each Loan, the transactions contemplated herein, and the payment and accrual of all transaction costs in connection with the foregoing, each Loan Party is Solvent.

5.10 **Taxes; Pension.** Each Loan Party and its Subsidiaries has timely filed all required material tax returns and reports with the appropriate Governmental Authority and timely paid all federal and state, and all material local and foreign taxes, assessments, deposits and contributions owed by such Person, excluding such amounts that are the subject of a Permitted Contest. No Loan Party is aware of any claims or adjustments proposed for any prior tax year that could result in additional material taxes becoming due and payable by a Loan Party or any of its Subsidiaries. Proper and accurate amounts have been withheld by each Loan Party from its respective employees for all periods in compliance with applicable Requirements of Law and such withholdings have been timely paid to the respective Governmental Authorities. Each Loan Party has paid all amounts necessary to fund all pension, profit sharing, deferred compensation and other retirement plans in accordance with their terms and as may be required under ERISA or other applicable Requirements of Law, and no Loan Party has withdrawn from participation in, or has permitted partial or complete termination of, or permitted the occurrence of any other event with respect to, any such plan which could reasonably be expected to result in any liability of a Loan Party, including any liability to the Pension Benefit Guaranty Corporation or its successors or any other Governmental Authority.

5.11 **Full Disclosure.** No representation, warranty or other statement made by or on behalf of a Loan Party to Agent or any Lender (including in any certificate, instrument, agreement or document delivered pursuant to any Loan Document) contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements contained therein not misleading (it being recognized by Agent and Lenders that the projections and forecasts provided by Loan Parties in good faith and based upon reasonable and stated assumptions are not to be viewed as facts and that actual results during the period or periods covered by any such projections and forecasts may differ from the projected or forecasted results).

5.12 **Regulatory Compliance.**

(a) Each Loan Party has, and it and its products are in conformance with, all Registrations that are required to conduct its business as currently conducted, or as proposed to be conducted, except to the extent that any such non-compliance, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect. To the knowledge of each Loan Party, the FDA is not considering limiting, suspending, or revoking such Registrations or changing the marketing classification or labeling or other significant parameter affecting the products of any Loan Party. To the knowledge of each Loan Party, any third party that is a manufacturer or contractor for any Loan Party is in compliance, and has been in compliance for the previous three years, with all Registrations required by the FDA and all Public Health Laws insofar as they reasonably pertain to the manufacture of product components or products regulated as drugs or medical devices and marketed or distributed by such Loan Party.

(b) All products designed, developed, investigated, manufactured, prepared, assembled, packaged, tested, labeled, distributed, sold or marketed by or, to the Knowledge of a Loan Party, on behalf of any Loan Party that are subject to the jurisdiction of the FDA have been and are being designed, developed, investigated, manufactured, prepared, assembled, packaged, tested, labeled, distributed, sold and marketed in compliance with the Public Health Laws and have been for the previous three years. All activities conducted by the Loan Parties are conducted in compliance in all material respects with the Public Health Laws.

(c) No Loan Party is subject to any obligation arising under a Regulatory Action and no such obligation has been threatened. There is no Regulatory Action or other civil, criminal or administrative action, suit, demand, claim, complaint, hearing, investigation, demand letter, proceeding or written request for related information pending against any Loan Party or an officer, director, or employee of any Loan Party and, to each Loan Party’s knowledge, no Loan Party has any liability (whether actual or contingent) for failure to comply with any Public Health Laws.

(d) As of the Closing Date, no Loan Party is undergoing any FDA inspection related to any activities or products of any Loan Party that are subject to Public Health Laws, or any other comparable Governmental Authority investigation.

(e) No Loan Party has received any notice or communication from the FDA alleging material noncompliance with any Public Health Law. No product has been seized, withdrawn, recalled, detained, or subject to a suspension (other than in the ordinary course of business) of research, manufacturing, distribution or commercialization activity. No proceedings in the United States or any other jurisdiction seeking the withdrawal, recall, revocation, suspension, import detention, or seizure of any product are pending or threatened in writing against any Loan Party.

(f) No Loan Party, and to the Knowledge of any Loan Party, any of its respective officers, directors, employees, agents or contractors (i) has been excluded or debarred from any federal healthcare program (including without limitation Medicare or Medicaid) or any other federal program or (ii) has received notice from the FDA with respect to debarment or disqualification of any Person that could reasonably be expected to have a Material Adverse Effect.

5.13 **Government Contracts**. Except as set forth on Schedule 5.13, as of the Closing Date, no Loan Party is a party to any contract or agreement with any Governmental Authority and no Loan Party's Accounts are subject to the Federal Assignment of Claims Act (31 U.S.C. Section 3727) or any similar state, county or municipal law.

5.14 **Customer and Trade Relations**. As of the Closing Date, there exists no actual or, to the knowledge of any Loan Party, overtly threatened termination or cancellation of, or any material adverse modification or change in (a) the business relationship of any Loan Party with any customer or group of customers whose purchases during the preceding 12 calendar months caused them to be ranked among the ten largest customers of such Loan Party or (b) the business relationship of any Loan Party with any supplier essential to its operations.

5.15 **Bonding**. As of the Closing Date, no Loan Party is a party to or bound by any surety bond agreement, indemnification agreement therefor or bonding requirement with respect to products or services sold by it.

6. AFFIRMATIVE COVENANTS.

6.1 **Good Standing.** Each Loan Party shall maintain, and shall cause each of its Subsidiaries to maintain, its existence and good standing in its jurisdiction of organization and maintain qualification in each jurisdiction in which the failure to so qualify could reasonably be expected to have a Material Adverse Effect. Each Loan Party shall maintain, and shall cause each of its Subsidiaries to maintain, in full force all permits, licenses, approvals and agreements, the loss of which could reasonably be expected to have a Material Adverse Effect.

6.2 **Notice to Agent and the Lenders.**

(a) Loan Parties shall promptly (but in any event within five (5) days after a Responsible Officer of a Loan Party obtains Knowledge) provide Agent and each Lender with written notice of (i) the occurrence of any Default or Event of Default, (ii) the commencement of, or any material development in, any litigation or proceeding affecting any Loan Party or any of its Subsidiaries or its respective Property (A) in which the amount of damages claimed is $250,000 or more, (B) which could reasonably be expected to have a Material Adverse Effect or (C) in which the relief sought is an injunction or other stay of performance of any Loan Document, and (iii) any amendments to (and copies of all statements, reports and notices (other than non-material statements, reports and notices delivered in the ordinary course of business) delivered to or by a Loan Party in connection with) any Material Agreement or any Loan Party entering into any Material Agreement or any termination or material breach thereof.

(b) Each Loan Party shall promptly (but in any event within three (3) Business Days) after the receipt or occurrence thereof notify Agent of (i) any written notice received by a Loan Party or any Subsidiary of Loan Party alleging potential or actual violations of any Public Health Law, (ii) any notice that the FDA is limiting, suspending or revoking any Registration, changing the market classification, distribution pathway or parameters, or labeling of the products of any Loan Party, or considering any of the foregoing, (iii) any notice that any Loan Party has become subject to any Regulatory Action, (iv) any inspections by FDA that results in an FDA Form 483, warning letter or other formal notice of serious deficiencies, (v) the exclusion or debarment from any federal

healthcare program or debarment or disqualification by FDA of any Loan Party or any of its respective officers, directors, employees, agents, or contractors, or (vi) any notice that any product of any Loan Party has been seized, withdrawn, recalled, detained, or subject to a suspension of manufacturing, or the commencement of any proceedings in the United States or any other jurisdiction seeking the withdrawal, recall, suspension, import detention, or seizure of any product are pending or threatened in writing against any Loan Party.

6.3 **Financial Statements; Reports; Borrowing Base Certificates; Collateral Reporting**.

(a) Borrower shall deliver to Agent and Lenders (i) as soon as available and in any event within 30 days after the end of each fiscal month, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal month and that portion of the fiscal year ending as of the close of such fiscal month, in a form acceptable to Agent and certified by Borrower's president, chief executive officer or chief financial officer, (ii) as soon as available and in any event within 45 days after the end of each fiscal quarter, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal quarter and that portion of the fiscal year ending as of the close of such fiscal quarter, in a form acceptable to Agent and certified by Borrower's president, chief executive officer or chief financial officer and (iii) as soon as available and in any event within one hundred and eighty (180) days after the end of each fiscal year, audited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal year, together with a report of an independent certified public accounting firm reasonably acceptable to Agent, which report shall contain an unqualified opinion stating that such audited financial statements fairly present in all material respects the financial position of Borrower and its Subsidiaries for the periods indicated therein in conformity with GAAP applied on a basis consistent with prior years without qualification as to the scope of the audit or as to going concern and without any similar qualification. All such financial statements are to be prepared using GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year end audit adjustments).

(b) Concurrently with the delivery of the financial statements specified in this Section 6.3, Borrower shall deliver to Agent and Lenders a compliance certificate, signed by the chief financial officer of Borrower, in the form attached hereto as Exhibit B.

(c) Borrower shall deliver to Agent and Lenders (i) copies of all statements, reports and notices made available generally by any Loan Party to the holders of its Stock or Stock Equivalents or to any holders of Subordinated Indebtedness, all notices sent to any Loan Party by the holders of such Subordinated Indebtedness, and all material documents filed with the SEC or any securities exchange or Governmental Authority exercising a similar function, promptly (but in any event within three (3) Business Days) after delivering or receiving such information to or from such Persons, (ii) an annual operating plan for Borrower, on a consolidated (and if available, consolidating) basis, for the current fiscal year within five (5) days after such plan is approved by the Board of Directors of Borrower (but in any event not later than sixty (60) days after the end of the immediately preceding fiscal year of Borrower), and (iii) such budgets, sales projections, or other business, financial, corporate affairs and other information as Agent or any Lender may reasonably request from time to time.

(d) As soon as available and in any event within ten (10) days after the end of each calendar month, and at such other times as Agent may reasonably require, Borrower shall deliver to Agent and the Revolving Lenders a Borrowing Base Certificate, certified by Borrower's president, chief executive officer, chief financial officer or treasurer, setting forth the Borrowing Base of Borrower as at the end of the most-recently ended fiscal month or as at such other date as Agent may reasonably require.

(e) Borrower shall deliver to Agent the following reports and documents at the times and in the manner set forth below:

(i) concurrently with the delivery of the Borrowing Base Certificate, a monthly trial balance showing Accounts outstanding aged from invoice date as follows: 1 to 30 days, 31 to 60 days, 61 to 90 days, and 91 days or more, accompanied by such supporting detail and documentation as shall be requested by Agent in its reasonable discretion;

(ii) concurrently with the delivery of the Borrowing Base Certificate, an aging of accounts payable accompanied by such supporting detail and documentation as shall be requested by Agent in its reasonable discretion; and

(iii) at the time of delivery of each of the monthly financial statements delivered pursuant to subsection 6.3(a);

(1) a reconciliation of the most recent Borrowing Base Certificate, general ledger and month-end accounts receivable aging of Borrower to Borrower's general ledger and monthly financial statements delivered pursuant to Section 6.3(a), in each case, accompanied by such supporting detail and documentation as shall be requested by Agent in its reasonable discretion; and

(2) a listing of any governmental contracts of any Loan Party subject to the Federal Assignment of Claims Act (31 U.S.C. Section 3727) or any similar state, county or municipal law that have been entered into during the prior fiscal month.

Notwithstanding anything herein to the contrary, documents required to be delivered pursuant to this Section 6.3 may be delivered by (x) electronic mail in accordance with Section 10.2 or (y) Borrower posting such documents, or providing a link thereto, on Borrower's website on the Internet at www.amedica.com, and such documents shall be deemed delivered in the case of clause (y) on the date on which Agent receives written notification of such posting (which notification may be made by electronic mail in accordance with Section 10.2).

6.4 **Insurance**. Each Loan Party, at its expense, shall maintain, and shall cause each Subsidiary to maintain, insurance (including, without limitation, comprehensive general liability, hazard, and business interruption insurance) with respect to all of its properties and businesses (including, the Collateral), in such amounts and covering such risks as is carried generally in accordance with sound business practice by companies in similar businesses similarly situated and in any event with deductible amounts, insurers and policies that shall be reasonably acceptable to Agent. Borrower shall deliver to Agent certificates of insurance evidencing such coverage, together with endorsements to such policies naming Agent as a lender loss payee or additional insured, as appropriate, in form and substance satisfactory to Agent. Each policy shall provide that coverage may not be canceled or altered by the insurer except upon thirty (30) days prior written notice to Agent and shall not be subject to co-insurance. Each Loan Party appoints Agent as its attorney-in-fact, if an Event of Default has occurred and is continuing, to make, settle and adjust all claims under and decisions with respect to such Loan Party's policies of insurance, and to receive payment of and execute or endorse all documents, checks or drafts in connection with insurance payments, provided that, Agent shall not act as such Loan Party's attorney-in-fact unless an Event of Default has occurred and is continuing. The appointment of Agent as any Loan Party's attorney in fact is a power coupled with an interest and is irrevocable until the Termination Date. Proceeds of insurance shall be applied, at the option of Agent, to repair or replace the Collateral or to reduce any of the Obligations. Notwithstanding the foregoing, if a Loan Party delivers to Agent a certificate, signed by such Loan Party's chief financial officer, that it intends within one hundred twenty (120) days of receipt of such insurance proceeds (the "**Reinvestment Period**") to use all or a portion of such proceeds to purchase assets used or useful in the ordinary course of business, then so long as no Default or Event of Default shall have occurred and be continuing on the date such Loan Party receives such insurance proceeds or at any point during such Reinvestment Period, such Loan Party may use all or such portion of such proceeds in the manner set forth in such certificate; provided that (a) the aggregate amount of such insurance proceeds so used shall not exceed $500,000 in the aggregate in any fiscal year and (ii) any such proceeds not so used or committed to such use pursuant to a binding agreement within the Reinvestment Period shall, on the first Business Day immediately following such period, be applied in accordance with the immediately preceding sentence. Pending such reinvestment, such insurance proceeds shall be delivered to Agent, for distribution to the Revolving Lenders, as a prepayment of the Revolving Loans (to the extent of Revolving Loans then outstanding), but not as a permanent reduction of the Revolving Loan Commitments. Further, prior to an Event of Default, any Loan Party may retain all insurance proceeds it receives which are for the reimbursement of legal costs and expenses relating to (i) the Borrower's acquisition of U.S. Spine, Inc. and (ii) litigation that is pending at the time of the Closing Date and is disclosed on the Perfection Certificate.

6.5 **Taxes; Pension.** Each Loan Party shall, and shall cause each Subsidiary to, timely file all tax reports and returns with the appropriate Governmental Authority and pay and discharge all federal, state, local and foreign taxes, assessments, deposits and contributions owed by such Person, excluding such amounts that are the

subject of a Permitted Contest. Each Loan Party shall pay all amounts necessary to fund all present pension, profit sharing, deferred compensation and other retirement plans in accordance with their terms and as may be required under ERISA or other applicable Requirements of Law.

6.6 **Access Agreements.** Unless otherwise agreed to by Agent in writing, each Loan Party shall obtain and maintain an Access Agreement with respect to any real property (other than real property owned by such Loan Party) (a) that is such Loan Party's principal place of business, (b) where such Loan Party's books or records are maintained or (c) where any Collateral is stored or maintained; provided, however, that the Loan Parties shall not be required to obtain an Access Agreement with respect to one or more locations described in the foregoing clause (c) if (1) the value of the Collateral at all such locations is less than $100,000 in the aggregate and Borrower gives written notice to Agent of the existence of each such location or (2) such Collateral is in the possession of (or in transit to or from) a distributor in the ordinary course of such Loan Party's business and such distributor has executed a distributor agreement with such Loan Party. Without limiting the obligations above, if a Loan Party is not able to obtain an Access Agreement with respect to any real property that is required pursuant to the immediately preceding sentence, then within ten (10) Business Days after the due date for any rental payments with respect to such real property, Borrower shall deliver to Agent (i) evidence in form reasonably satisfactory to Agent that such rental payment was made and (ii) a certification that no default or event of default exists under any such lease.

6.7 **Protection of Intellectual Property.** Each Loan Party shall (a) protect, defend and maintain the validity and enforceability of any Intellectual Property material to the conduct of its business, (b) promptly advise Agent in writing of material infringements of any Intellectual Property material to such Loan Party's business of which any Responsible Officer of any Loan Party has knowledge, (c) not allow any Intellectual Property material to such Loan Party's business to be abandoned, forfeited or dedicated to the public without Agent's written consent (which decision regarding consent or non-consent by Agent shall not be unreasonably delayed after such Loan Party delivers written notice to Agent of such proposed abandonment, forfeiture or dedication to the public), and (d) notify Agent promptly, but in any event within three (3) Business Days, if it knows or has reason to know that any application or registration relating to any patent, trademark or copyright (now or hereafter existing) material to its business is reasonably likely to become abandoned or dedicated, or if it knows or has reason to know of any adverse determination or the occurrence of any development (including the institution of, or any such determination or development in, any proceeding in the United States Patent and Trademark Office, the United States Copyright Office or any court) regarding such Loan Party's ownership of any Intellectual Property material to its business, or its right to register the same or to keep and maintain the same. Each Loan Party shall at all times conduct its business without knowingly infringing, misappropriating, diluting, violating, or otherwise impairing the Intellectual Property of any other Person. Each Loan Party shall remain liable under each of its Intellectual Property licenses pursuant to which it is a licensee that are material to such Loan Party's business, and shall observe and perform all of the conditions and obligations to be observed and performed by it thereunder. None of Agent or any Lender shall have any obligation or liability under any such license by reason of or arising out of any Loan Document, the granting of a Lien, if any, in such license or the receipt by Agent (on behalf of itself and Lenders) of any payment relating to any such license. If after the Closing Date any Loan Party (i) obtains any patent, registered trademark or service mark, registered copyright, registered mask work, or any pending application for any of the foregoing, whether as owner, licensee or otherwise, or (ii) applies for any patent or the registration of any trademark, service mark, copyright or mask work, then such Loan Party shall concurrently with delivery of the next Compliance Certificate provide written notice thereof to Agent and shall promptly execute an Intellectual Property Security Agreement (or updates to the Exhibits to the Intellectual Property Security Agreement previously delivered if not filed at such time by Agent) and other documents and take such other actions as Agent shall request in its good faith business judgment to protect or perfect and maintain a first priority perfected security interest (which will be effective as provided herein) in favor of Agent, for the benefit of Lenders, in such Property. If requested by Agent, each Loan Party shall promptly provide to Agent copies of all applications that it files for patents or for the registration of trademarks, service marks, copyrights or mask works.

6.8 **Collateral**.

(a) Each Loan Party shall maintain all of the tangible Collateral (including cash and Cash Equivalents) in the continental United States. Notwithstanding the foregoing, Loan Parties shall be permitted to maintain Inventory and Equipment outside the United States if such Inventory and Equipment is in the possession of (or in transit to or from) a distributor in the ordinary course of such Loan Party's business and such distributor has executed a distributor agreement with such Loan Party, and the aggregate value thereof does not exceed $1,500,000.

(b) Each Loan Party shall maintain and preserve in good working order and condition all of its Property necessary in the conduct of its business, ordinary wear and tear excepted.

(c) Each Loan Party shall maintain proper books of record and account, in which full, true and correct entries shall be made in accordance with GAAP and all other applicable Requirements of Law of all financial transactions and matters involving the assets and business of such Loan Party.

(d) Each Loan Party shall, during normal business hours and upon reasonable prior notice (unless a Default or Event of Default has occurred and is continuing in which event no notice shall be required and Agent and Lenders shall have access at all times during the continuance thereof), as frequently as Agent reasonably determines to be appropriate, permit Agent (who may be accompanied by representatives of any Lender) and any of its Related Persons (i) to have access to the properties, facilities, and employees (including officers) of each Loan Party and to the Collateral, (ii) to conduct field examinations and to inspect, audit and make extracts and copies of any Loan Party's books and records (or at the request of Agent, deliver true and correct copies of such books and records to Agent), and (iii) to inspect, audit, appraise, review, evaluate or make test verifications and counts of the Accounts and any other Collateral. The Loan Parties shall only be required to reimburse Agent and any applicable Lender for the expenses of two (2) such field examinations, inspections and audits per calendar year (unless a Default or Event of Default has occurred and is continuing in which case Loan Parties shall be responsible for all such expenses). Upon Agent's request, each Loan Party will promptly notify Agent in writing of the location of any Collateral.

6.9 **Compliance with Law.** Each Loan Party shall comply with all applicable Requirements of Law except where the failure to comply could not reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect. Without limiting the generality of the foregoing, each Loan Party shall comply in all material respects with all Public Health Laws and their implementation by any applicable Governmental Authority and all lawful requests of any Governmental Authority applicable to its products. Each Loan Party shall continue to operate all facilities, locations, and processes in compliance in all material respects with all Registrations and Public Health Laws. All products designed, developed, investigated, manufactured, prepared, assembled, packaged, tested, labeled, distributed, sold or marketed by or on behalf of any Loan Party that are subject to the jurisdiction of the FDA shall be designed, developed, investigated, manufactured, prepared, assembled, packaged, tested, labeled, distributed, sold and marketed in compliance in all material respects with the Public Health Laws.

6.10 **Deposit Accounts and Securities Accounts; Cash Management Procedures.**

(a) Each Loan Party shall hold all of its cash and Cash Equivalents in a Deposit Account or Securities Account, and each Loan Party shall enter into, and cause each depository or securities intermediary to enter into, a deposit account control agreement or securities account control agreement, as the case may be, in form and substance reasonably satisfactory to Agent (an "Account Control Agreement") with respect to each Deposit Account and Securities Account maintained by such Person, prior to or concurrently with the establishment of such Deposit Account or Securities Account (or in the case of any such Deposit Account or Securities Account maintained as of the Closing Date, on or before the Closing Date). Such Account Control Agreement shall provide for "springing" cash dominion with respect to each such account. With respect to each Deposit Account or Securities Account providing for "springing" cash dominion, Agent will not deliver to the relevant institution a notice or other instruction which provides for exclusive control over such account by Agent until an Event of Default has occurred and is continuing. Upon Agent's written request, the Loan Parties shall create or designate a dedicated deposit account or accounts to be used exclusively for payroll or withholding tax purposes.

(b) To the extent that any Loan Party receives any payments with respect to Accounts by any payment method other than electronic payment, on or before the Closing Date and continuing until the Termination Date, each Loan Party shall establish and maintain a lockbox (each, a "Lockbox") with a depository institution acceptable to Agent (the "Lockbox Bank"), and establish and maintain a Deposit Account (each, a "Lockbox Account") maintained at the Lockbox Bank that corresponds to the Lockbox and into which all collections of Accounts are paid directly, and execute a lockbox agreement in form and substance reasonably satisfactory to Agent. To the extent that any Loan Party receives any payments with respect to Accounts by electronic payment, on

or before the Closing Date and continuing until the Termination Date, each Loan Party shall establish and maintain a Deposit Account (the "Sweep Account") with a depository institution acceptable to Agent (the "Sweep Bank") into which all collections of Accounts that are paid electronically are paid directly. At all times after 90 days after the Closing Date, each Loan Party shall ensure that substantially all collections of Accounts are paid directly from Account Debtors into such Loan Party's Lockbox for deposit into the corresponding Lockbox Account (in the case of payments not made electronically) and into the Sweep Account (in the case of payments made electronically). On or before the Closing Date (or on the date that any additional Lockbox and Lockbox Account or Sweep Account are established after the Closing Date) and continuing until the Termination Date, Agent, the Loan Parties and the Lockbox Bank or the Sweep Bank, as applicable, shall enter into an Account Control Agreement which shall provide for "full" cash dominion and, among other things, that (i) the Lockbox Bank or Sweep Bank shall comply exclusively with all instructions of Agent without further consent of such Loan Party, and (ii) the Lockbox Bank agrees to transfer all funds on deposit in the Lockbox Account, and the Sweep Bank agrees to transfer all funds on deposit in the Sweep Account, to the Collection Account on a daily basis. Without limiting the obligations above, to the extent that any collections of Accounts or other proceeds of the Accounts are not sent directly to a Lockbox, or in the case of electronic payments, to the Sweep Account, but are received by a Loan Party, such collections shall be held in trust for the benefit of Agent and promptly remitted, in the form received, to the applicable Lockbox Account or the Sweep Account, as applicable, for transfer to the Collection Account immediately upon receipt by any Loan Party.

(c) Subject to Section 8.3, Agent shall apply, on a daily basis, all funds transferred into the Collection Account from a Lockbox Account or the Sweep Account to reduce the outstanding principal amount of the Revolving Loans. If a credit balance exists with respect to the Collection Account, such credit balance shall not accrue interest in favor of any Loan Party, but shall be available to Borrower at any time or times for so long as no Default or Event of Default exists.

(d) The Loan Parties shall maintain their primary depository, operating and securities accounts with Zions First National Bank, as long as it remains a Lender under this Agreement, which accounts shall represent at all times at least ninety percent (90%) of the US dollar value of all of the Loan Parties' and their respective subsidiaries' accounts at all financial institutions.

6.11 **Further Assurances.** Each Loan Party shall, upon request of Agent, furnish to Agent such further information, execute and deliver to Agent such documents and instruments (including, without limitation, UCC financing statements) and shall do such other acts and things as Agent may at any time reasonably request relating to the perfection or protection of the security interest created by any Loan Document or for the purpose of carrying out the intent of the Loan Documents. If any Loan Party acquires any real property, such Loan Party shall notify Agent in writing and simultaneously with such acquisition, execute and/or deliver to Agent a mortgage or such other agreements and documents as Agent shall require to grant to Agent a security interest over such real property as security for the Obligations, and shall satisfy such other requirements as Agent shall reasonably request (including, without limitation, appraisal, insurance, environmental and survey requirements).

6.12 **Liquidity Event.** Borrower shall have received the Liquidity Event proceeds on or before June 28, 2013.

6.13 **Post Closing.** Borrower shall comply with the requirements on Schedule 6.13.

7. NEGATIVE COVENANTS.

7.1 **Liens.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, (a) create, incur, assume or permit to exist any Lien on any of its Property, other than Permitted Liens, or (b) enter into, assume or become subject to any agreement or other contractual obligation (other than this Agreement) prohibiting or otherwise restricting the existence of any Lien upon any of its Property (including, without limitation, any of its Intellectual Property), whether now owned or hereafter acquired, except in this clause (b), (i) limitations on Liens on any Property whose acquisition, repair, improvement or construction is financed by capitalized lease obligations or purchase money Indebtedness (permitted under clause (c) of the definition of Permitted Indebtedness) set forth in the agreement governing such Indebtedness with respect thereto and (ii) any such restriction customarily contained in any real property lease or sublease of any Loan Party.

7.2 **Indebtedness.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, directly or indirectly create, incur, assume, permit to exist, guarantee or otherwise become or remain directly or indirectly liable with respect to, any Indebtedness, except for Permitted Indebtedness.

7.3 **Dispositions.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, Transfer any of its Property, except for Permitted Dispositions.

7.4 **Change in Name, Location or Executive Office; Change in Business; Change in Fiscal Year.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, (a) without Agent's prior written consent, change its legal name, its jurisdiction of organization, its organizational structure or type, or any organizational identification number (if any) assigned by its jurisdiction of organization, (b) relocate its chief executive office without thirty (30) days prior written notification to Agent, (c) engage in any business other than or reasonably related or incidental to the businesses currently engaged in by such Person, (d) cease to conduct business substantially in the manner conducted by such Person as of the date of this Agreement (including, without limitation, terminating the employment of all or substantially all of its employees) or (e) change its fiscal year end.

7.5 **Mergers and Investments.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, directly or indirectly, (a) merge or consolidate with or into any other Person (other than mergers of a Subsidiary of Borrower into Borrower so long as Borrower is the surviving entity), or (b) acquire, own or make any Investment in or to any Person other than Permitted Investments.

7.6 **Restricted Payments.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, (a) declare or pay any dividends or make any other distribution or payment on account of or redeem, retire, defease or purchase any Stock or Stock Equivalent (other than (i) the payment of dividends to Borrower, (ii) the payment of dividends or distributions payable solely in such Loan Party's Stock or Stock Equivalents, (iii) the issuance of Stock upon the exercise or conversion of Stock Equivalents, and (iv) so long as no Default or Event of Default is then continuing or would result therefrom, the repurchase of Borrower's Stock and Stock Equivalents from current or former officers, employees, surgeon advisors or directors (or their permitted transferees or estates) upon their death, disability or termination of employment in an aggregate amount not to exceed $250,000 in any fiscal year), (b) purchase, redeem, defease or prepay any principal of, premium, if any, interest or other amount payable in respect of any Indebtedness (other than with respect to the Obligations as described in Section 2.5) prior to its scheduled maturity, (c) purchase or make any payment on or with respect to any Subordinated Indebtedness, except as expressly permitted by the applicable Subordination Agreement, (d) pay any management, consulting or similar fees to any Affiliate or holder of Stock or Stock Equivalents of a Loan Party (other than (i) director's fees and reimbursement of actual out of pocket expenses incurred in connection with attending board of director meetings not to exceed in the aggregate, with respect to all such items, $100,000 in any fiscal year, (ii) bona fide consulting fees on arm's-length terms paid to such Affiliates or holders of Stock or Stock Equivalents for actual services rendered to the Loan Parties in the ordinary course of business in an aggregate amount not to exceed $100,000 in any fiscal year) and (iii) so long as no Default or Event of Default is then continuing or would exist after giving effect thereto (including but not limited to the financial covenants in Section 7.10), Permitted Related Transactions, or (e) be a party to or bound by an agreement that restricts a Loan Party or any Subsidiary of a Loan Party from paying dividends or otherwise making any payments or distributions to any Loan Party.

7.7 **Transactions with Affiliates.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, directly or indirectly enter into or permit to exist any transaction with or for the benefit of any Affiliate of a Loan Party except for (a) Permitted Investments described in clauses (f) and (j) of such definition, (b) transactions that are in the ordinary course of such Loan Party's or such Subsidiary's business, upon fair and reasonable terms that are no more favorable to such Affiliate than would be obtained in an arm's length transaction, (c) so long as no Default or Event of Default is then continuing or would exist after giving effect thereto (including but not limited to the financial covenants in Section 7.10), Permitted Related Transactions, (d) sales of equity securities of Borrower in bona fide equity financings for the purpose of raising capital to the extent such equity financing is not otherwise prohibited under the Loan Documents; (e) Investments by a Loan Party in another Loan Party to the extent permitted under Section 7.5 and (f) transactions among Loan Parties.

7.8 **Compliance.** No Loan Party shall, and no Loan Party shall permit any of its Subsidiaries to, (a) fail to comply with the laws and regulations described in clauses (b) or (c) of Section 5.7, (b) use any portion of the Loans to purchase or carry, become engaged in the business of purchasing or selling, or extend credit for the purpose

of purchasing or carrying Margin Stock, or (c) fail to meet the minimum funding requirements of ERISA, permit a Reportable Event or Prohibited Transaction, as defined in ERISA, to occur, fail to comply in any material respect with the Federal Fair Labor Standards Act, withdraw from participation in, permit partial or complete termination of, or permit the occurrence of any other event with respect to, any present pension, profit sharing and deferred compensation plan which could reasonably be expected to result in any liability of any Loan Party, including any liability to the Pension Benefit Guaranty Corporation or its successors or any other Governmental Authority.

7.9 **Amendments to Other Agreements.** No Loan Party shall amend, modify or waive any provision of (a) any Material Agreement (except as provided in clause (b) below) or any of such Loan Party's organizational documents, unless the net effect of such amendment, modification or waiver is not adverse to any Loan Party, Agent or Lenders, or (b) any document relating to any Subordinated Indebtedness or the Permitted Related Transactions.

7.10 **Financial Covenants**.

(a) DSO Covenant. Loan Parties shall not allow their Days Sales Outstanding to exceed eighty-five (85) days for any calendar month. Days Sales Outstanding shall be measured in accordance with GAAP, on a consolidated basis and at the end of each calendar month.

(b) Liquidity Covenant. Loan Parties shall not allow at any time Availability plus its unrestricted cash and Cash Equivalents maintained in one or more Deposit Accounts or Securities Accounts subject to an Account Control Agreement to be less than the greater of (i) $1,500,000 (without giving effect to Availability) and (ii) the positive value of the product of (A) six times (B) the Monthly Cash Burn Amount.

8. DEFAULT AND REMEDIES.

8.1 **Events of Default.** Each of the following shall be an "Event of Default":

(a) any Loan Party shall fail to pay (i) any principal when due, or (ii) any interest, fees or other Obligations (other than as specified in clause (i)) within a period of three (3) Business Days after the due date thereof (other than on the Final Maturity Date or the Revolving Loan Commitment Termination Date);

(b) any Loan Party breaches any of its obligations under Section 6.1 (solely as it relates to maintaining its existence), Section 6.2, Section 6.3, Section 6.4, Section 6.8(a) and (d), Section 6.10, Section 6.12, Section 6.13 or Article 7;

(c) any Loan Party breaches any of its other obligations under any of the Loan Documents and fails to cure such breach within thirty (30) days after the earlier of (i) the date on which an officer of such Loan Party becomes aware, or through the exercise of reasonable diligence should have become aware, of such failure and (ii) the date on which notice shall have been given to any Loan Party from Agent or the Requisite Lenders;

(d) (i) any representation, warranty or statement made or deemed made by or on behalf of any Loan Party in any of the Loan Documents or otherwise in connection with any of the Obligations shall be incorrect or misleading in any material respect (or in any respect if qualified by "material" or "Material Adverse Effect") when made or deemed made, or (ii) any information contained in any Borrowing Base Certificate is untrue or incorrect in any respect (other than (A) inadvertent, immaterial errors not exceeding $100,000 in the aggregate in any Borrowing Base Certificate, and (B) errors understating the Borrowing Base);

(e) (i) service of process is made that seeks to attach any funds of a Loan Party on deposit in any Deposit Account or Securities Account, (ii) a notice of Lien, levy, or assessment is filed against any Loan Party's assets by any Governmental Authority, and the same under the preceding subclauses (i) and (ii) are not, within twenty (20) days after the occurrence thereof, discharged or stayed (whether through the posting of a bond or otherwise), or (iii) any portion of the assets of the Loan Parties with an aggregate value in excess of $50,000 is attached, seized, levied on, or comes into possession of a trustee or receiver;

(f) one or more judgments, orders or decrees shall be rendered against any Loan Party or any Subsidiary of a Loan Party that exceeds by more than $250,000 any insurance coverage applicable thereto (to the extent the relevant insurer has been notified of such claim and has not denied coverage therefor) or one or more

non-monetary judgments, orders or decrees shall be rendered against any Loan Party or any Subsidiary of a Loan Party that could reasonably be expected to result in a Material Adverse Effect, and in either case (i) enforcement proceedings shall have been commenced by any creditor upon any such judgment, order or decree or (ii) such judgment, order or decree shall not have been satisfied, vacated or discharged for a period of thirty (30) consecutive days and there shall not be in effect (by reason of a pending appeal or otherwise) any stay of enforcement thereof;

(g) (i) any Loan Party or any Subsidiary of a Loan Party shall generally not pay its debts as such debts become due, shall admit in writing its inability to pay its debts generally, shall make a general assignment for the benefit of creditors, or shall cease doing business as a going concern, (ii) any proceeding shall be instituted by or against any Loan Party or any Subsidiary of a Loan Party seeking to adjudicate it as bankrupt or insolvent or seeking liquidation, winding up, reorganization, arrangement, adjustment, protection, relief, composition of it or its debts or any similar order, in each case under any law relating to bankruptcy, insolvency or reorganization or relief of debtors or seeking the entry of an order for relief or the appointment of a custodian, receiver, trustee, conservator, liquidating agent, liquidator, other similar official or other official with similar powers, in each case for it or for any substantial part of its Property and, in the case of any such proceedings instituted against (but not by or with the consent of) such Loan Party or such Subsidiary, either such proceedings shall remain undismissed or unstayed for a period of forty-five (45) days or more or any action sought in such proceedings shall occur, (iii) any Loan Party or any Subsidiary of a Loan Party shall take any corporate or similar action or any other action to authorize any action described in clauses (i) or (ii) above, or (iv) if Borrower is a public company, Borrower’s Stock ceases to be traded on a major United States stock exchange;

(h) a Material Adverse Effect has occurred;

(i) (i) any provision of any Loan Document shall fail to be valid and binding on, or enforceable against, a Loan Party that is a party thereto, (ii) any Loan Document purporting to grant a security interest to secure any Obligation shall fail to create a valid and enforceable security interest on any Collateral purported to be covered thereby or such security interest shall fail or cease to be a perfected Lien with the priority required in the relevant Loan Document, or (iii) the holder of any Subordinated Indebtedness shall breach the terms of the applicable Subordination Agreement, or any subordination provision set forth in the Subordination Agreement or any other document evidencing or relating to any Subordinated Indebtedness shall, in whole or in part, terminate or otherwise fail or cease to be valid and binding on, or enforceable against, any agent for or holder of the Subordinated Indebtedness (or such Person shall so state in writing), or any Loan Party shall state in writing that any of the events described in clauses (i), (ii) or (iii) above shall have occurred;

(j) (i) any Loan Party or any Subsidiary of a Loan Party defaults under any Material Agreement (after any applicable grace period contained therein), and as a result of such default the other party thereto has the right to terminate such Material Agreement, (ii) (A) any Loan Party or any Subsidiary of a Loan Party fails to make (after any applicable grace period) any payment when due (whether due because of scheduled maturity, required prepayment, acceleration, demand or otherwise) on any Material Indebtedness, (B) any other event shall occur or condition shall exist under any contractual obligation relating to any Material Indebtedness, if the effect of such event or condition is to accelerate, or to permit the acceleration of (without regard to any subordination terms with respect thereto), the maturity of such Material Indebtedness or (C) any Material Indebtedness shall become or be declared to be due and payable, or be required to be prepaid, redeemed, defeased or repurchased (other than by a regularly scheduled required prepayment), prior to the stated maturity thereof, or (iii) any Loan Party defaults (beyond any applicable grace period) under any obligation for payments due or otherwise under any lease agreement that meets the criteria for the requirement of an Access Agreement under Section 6.6 and, as a result thereof, the landlord thereunder has the right to terminate such lease agreement;

(k) (i) any of the chief executive officer, the chief financial officer or the chief technology officer of Borrower shall cease to be involved in the day to day operations (including research development) or management of the business of Borrower, unless a successor of such officer (including an interim replacement) is appointed by the Board of Directors of Borrower and employed within ninety (90) days of such cessation of involvement, and such successor is in compliance with OFAC, money-laundering, anti-terrorism, SEC, drug/device laws and regulations, and other similar regulations (in each case, to the extent applicable to a natural Person), (ii) during any period of twelve consecutive calendar months, individuals who at the beginning of such period constituted the Board of Directors of Borrower (together with any new directors whose election or appointment by the then current members of the Board of Directors of Borrower, or whose nomination for election by the directors

then still in office who either were directors at the beginning of such period or whose election or nomination for election was previously so approved was approved by a vote of at least a majority of the Board of Directors of Borrower or by a plurality of votes cast by the stockholders of Borrower) cease for any reason other than death or disability to constitute a majority of the directors then in office; (iii) the acquisition, directly or indirectly, by any Person or group (as such term is used in Section 13(d)(3) of the Securities Exchange Act of 1934) of more than thirty-five percent (35%) of the voting Stock of Borrower, or (iv) the occurrence of any "change of control" or any term of similar effect under any Subordinated Indebtedness document;

(l) Any event occurs, that is not insured or insurable, as a result of which revenue-producing activities cease or are substantially curtailed at facilities of any Loan Party generating more than 33% of the Loan Parties' consolidated revenues for the fiscal year preceding such event and such cessation or curtailment continues for more than one hundred twenty (120) days; or

(m) (i) The FDA initiates a Regulatory Action or any other enforcement action against any Loan Party or any supplier of a Loan Party that causes any Loan Party to recall, withdraw, remove or discontinue marketing any of its products; (ii) the FDA issues a warning letter to any Loan Party with respect to any of its activities or products which could reasonably be expected to have a Material Adverse Effect; (iii) any Loan Party conducts a mandatory or voluntary recall which could reasonably be expected to result in liability and expense to the Loan Parties of $250,000 or more; (iv) any Loan Party enters into a settlement agreement with the FDA that results in aggregate liability as to any single or related series of transactions, incidents or conditions, of $250,000 or more, or that could reasonably be expected to have a Material Adverse Effect; or (v) the FDA revokes any authorization or permission granted under any Registration, or any Loan Party withdraws any Registration, that could reasonably be expected to have a Material Adverse Effect.

8.2 **Lender Remedies.** Upon the occurrence and during the continuance of any Event of Default, upon the written request of the Requisite Lenders, Agent shall terminate or suspend any Commitment (if outstanding) and/or declare any or all of the Obligations to be immediately due and payable, without demand or notice to any Loan Party, and the accelerated Obligations shall bear interest at the Default Rate, provided that, upon the occurrence of any Event of Default specified in Section 8.1(g), the Obligations shall be automatically accelerated. After the occurrence and during the continuance of an Event of Default, Agent shall have (on behalf of itself and Lenders) all of the rights and remedies of a secured party under the UCC and under any other applicable Requirement of Law. Without limiting the foregoing, upon the occurrence and during the continuance of an Event of Default, (a) at the written request of the Requisite Lenders, Agent shall, or (b) upon the termination of the Commitments or the acceleration of the Obligations pursuant to this Section 8.2, or upon receipt of written request of the Requisite Lenders to exercise remedies generally, Agent may, (w) notify any Account Debtor or any obligor on any instrument which constitutes part of the Collateral to make payments to Agent (for the benefit of itself and Lenders), (x) with or without legal process, enter any premises where the Collateral may be and take possession of and remove the Collateral from the premises or store it on the premises, (y) sell the Collateral at public or private sale, in whole or in part, and have the right to bid and purchase at such sale, or (z) lease or otherwise dispose of all or part of the Collateral, applying proceeds from such disposition to the Obligations in accordance with Section 8.3. If requested by Agent, Loan Parties shall promptly assemble the Collateral and make it available to Agent at a place to be designated by Agent. Agent may also render any or all of the Collateral unusable at a Loan Party's premises and may dispose of such Collateral on such premises without liability for rent or costs. Any notice that Agent is required to give to a Loan Party under the UCC of the time and place of any public sale or the time after which any private sale or other intended disposition of the Collateral is to be made shall be deemed to constitute reasonable notice if such notice is given in accordance with this Agreement at least ten (10) days prior to such action. Effective only upon the occurrence and during the continuance of an Event of Default, each Loan Party hereby irrevocably appoints Agent (and any of Agent's Related Persons) as such Loan Party's true and lawful attorney to: (i) take any of the actions specified above in this paragraph; (ii) endorse such Loan Party's name on any checks or other forms of payment or security that may come into Agent's possession; (iii) settle and adjust disputes and claims respecting the Accounts directly with Account Debtors, for amounts and upon terms which Agent determines to be reasonable; and (iv) do such other and further acts and deeds in the name of such Loan Party that Agent may deem necessary or desirable to enforce its rights in or to any of the Collateral or to perfect or better perfect Agent's security interest (on behalf of itself and Lenders) in any of the Collateral. For the purpose of enabling Agent to exercise rights and remedies under this Section 8.2 at such time as Agent shall be lawfully entitled to exercise such rights and remedies, each Loan Party hereby grants to Agent (on behalf of itself and Lenders), (A) an irrevocable, nonexclusive, worldwide license (exercisable without payment of royalty or other compensation to such Loan Party), to use or

sublicense any Intellectual Property now owned or hereafter acquired by such Loan Party and including in such license access to all media in which any of the licensed items may be recorded or stored and to all computer software and programs used for the compilation or printout thereof and (B) an irrevocable license (without payment of rent or other compensation to such Loan Party) to use, operate and occupy all real property owned, operated, leased, subleased or otherwise occupied by such Loan Party. The appointment of Agent as each Loan Party's attorney in fact is a power coupled with an interest and is irrevocable until the Termination Date. Notwithstanding anything to the contrary contained in this Section 8.2, Agent shall not be required to obtain the consent of any Lender to take any action to protect, preserve or take possession of any Collateral that is subject to an Exigent Circumstance.

8.3 **Application of Proceeds.** Proceeds from any Transfer of the Collateral, including, without limitation, the Intellectual Property (other than Permitted Dispositions) and all payments made to or Proceeds of Collateral, including, without limitation, Intellectual Property received by Agent during the continuance of an Event of Default shall be applied as follows: (a) first, to pay all fees, costs, indemnities, reimbursements and expenses then due to Agent under the Loan Documents in its capacity as Agent under the Loan Documents, until paid in full in cash, (b) second, to pay all fees, costs, indemnities, reimbursements and expenses then due to Lenders under the Loan Documents in accordance with their respective Pro Rata Shares, until paid in full in cash, (c) third, to pay all interest on the Loans then due to Lenders in accordance with their respective Pro Rata Shares (other than interest, fees, expenses and other amounts accrued after the commencement of any proceeding referred to in Section 8.1(g) if a claim for such amounts is not allowable in such proceeding), until paid in full in cash, (d) fourth, to pay all principal on the Loans then due to Lenders in accordance with their respective Pro Rata Shares, until paid in full in cash, (e) fifth, to pay all other Obligations then due to Agent and Lenders in accordance with their respective Pro Rata Shares (including, without limitation, all interest, fees, expenses and other amounts accrued after the commencement of any proceeding referred to in Section 8.1(g) whether or not a claim for such amounts is allowable in such proceeding), until paid in full in cash, and (f) sixth, to Borrower or as otherwise required by any Requirement of Law. Borrower shall remain fully liable for any deficiency. Each Loan Party irrevocably waives the right to direct the application during the continuance of an Event of Default of any and all payments in respect of any Obligation and any proceeds of Collateral, including, without limitation, the Intellectual Property.

9. THE AGENT.

9.1 **Appointment of Agent**.

(a) Each Lender hereby appoints GECC (together with any successor Agent pursuant to Section 9.7) as Agent under the Loan Documents and authorizes Agent to (i) execute and deliver the Loan Documents and accept delivery thereof on its behalf from any Loan Party, (ii) take such action on its behalf and to exercise all rights, powers and remedies and perform the duties as are expressly delegated to Agent under such Loan Documents and (iii) exercise such powers as are reasonably incidental thereto.

(b) Without limiting the generality of clause (a) above, Agent shall have the sole and exclusive right and authority (to the exclusion of the Lenders), and is hereby authorized, to (i) act as the disbursing and collecting agent for the Lenders with respect to all payments and collections arising in connection with the Loan Documents (including in any other bankruptcy, insolvency or similar proceeding), and each Person making any payment in connection with any Loan Document to any Lender is hereby authorized to make such payment to Agent, (ii) file and prove claims and file other documents necessary or desirable to allow the claims of Agent and Lenders with respect to any Obligation in any bankruptcy, insolvency or similar proceeding (but not to vote, consent or otherwise act on behalf of such Lender), (iii) act as collateral agent for Agent and each Lender for purposes of the perfection of all Liens created by the Loan Documents and all other purposes stated therein, (iv) manage, supervise and otherwise deal with the Collateral, (v) take such other action as is necessary or desirable to maintain the perfection and priority of the Liens created or purported to be created by the Loan Documents, (vi) except as may be otherwise specified in any Loan Document, exercise all remedies given to Agent and the other Lenders with respect to the Loan Parties and/or the Collateral, whether under the Loan Documents, applicable Requirements of Law or otherwise and (vii) execute any amendment, consent or waiver under the Loan Documents on behalf of any Lender that has consented in writing to such amendment, consent or waiver; provided, however, that Agent hereby appoints, authorizes and directs each Lender to act as collateral sub-agent for Agent and the Lenders for purposes of the perfection of all Liens with respect to the Collateral, including any Deposit Account maintained by a Loan Party with, and cash and Cash Equivalents held by, such Lender, and may further authorize

and direct the Lenders to take further actions as collateral sub-agents for purposes of enforcing such Liens or otherwise to transfer the Collateral subject thereto to Agent, and each Lender hereby agrees to take such further actions to the extent, and only to the extent, so authorized and directed. Agent may, upon any term or condition it specifies, delegate or exercise any of its rights, powers and remedies under, and delegate or perform any of its duties or any other action with respect to, any Loan Document by or through any trustee, co-agent, employee, attorney-in-fact and any other Person (including any Lender). Any such Person shall benefit from this Article 9 to the extent provided by Agent.

(c) Under the Loan Documents, Agent (i) is acting solely on behalf of the Lenders, with duties that are entirely administrative in nature, notwithstanding the use of the defined term “Agent”, the terms “agent”, “Agent” and “collateral agent” and similar terms in any Loan Document to refer to Agent, which terms are used for title purposes only, (ii) is not assuming any obligation under any Loan Document other than as expressly set forth therein or any role as agent, fiduciary or trustee of or for any Lender or any other Person and (iii) shall have no implied functions, responsibilities, duties, obligations or other liabilities under any Loan Document, and each Lender, by accepting the benefits of the Loan Documents, hereby waives and agrees not to assert any claim against Agent based on the roles, duties and legal relationships expressly disclaimed in clauses (i) through (iii) above. Except as expressly set forth in the Loan Documents, Agent shall not have any duty to disclose, and shall not be liable for failure to disclose, any information relating to any Loan Party or any of its Subsidiaries that is communicated to or obtained by GECC or any of its Affiliates in any capacity.

9.2 **Binding Effect; Use of Discretion; E-Systems.**

(a) Each Lender, by accepting the benefits of the Loan Documents, agrees that (i) any action taken by Agent or Requisite Lenders (or, if expressly required in any Loan Document, a greater proportion of the Lenders) in accordance with the provisions of the Loan Documents, (ii) any action taken by Agent in reliance upon the instructions of Requisite Lenders (or, where so required, such greater proportion) and (iii) the exercise by Agent or Requisite Lenders (or, where so required, such greater proportion) of the powers set forth herein or therein, together with such other powers as are reasonably incidental thereto, shall be authorized and binding upon all of Lenders.

(b) If Agent shall request instructions from Requisite Lenders or all affected Lenders with respect to any act or action (including failure to act) in connection with any Loan Document, then Agent shall be entitled to refrain from such act or taking such action unless and until Agent shall have received instructions from Requisite Lenders or all affected Lenders, as the case may be, and Agent shall not incur liability to any Person by reason of so refraining. Agent shall be fully justified in failing or refusing to take any action under any Loan Document (i) if such action would, in the opinion of Agent, be contrary to any Requirement of Law or any Loan Document, (ii) if such action would, in the opinion of Agent, expose Agent to any potential liability under any Requirement of Law or (iii) if Agent shall not first be indemnified to its satisfaction against any and all liability and expense which may be incurred by it by reason of taking or continuing to take any such action. Without limiting the foregoing, no Lender shall have any right of action whatsoever against Agent as a result of Agent acting or refraining from acting under any Loan Document in accordance with the instructions of Requisite Lenders or all affected Lenders, as applicable.

(c) Agent is hereby authorized by each Loan Party and each Lender to establish procedures (and to amend such procedures from time to time) to facilitate administration and servicing of the Loans and other matters incidental thereto. Without limiting the generality of the foregoing, Agent is hereby authorized to establish procedures to make available or deliver, or to accept, notices, documents (including, without limitation, Borrowing Base Certificates) and similar items on, by posting to or submitting and/or completion, on E-Systems. Each Loan Party and each Lender acknowledges and agrees that the use of transmissions via an E-System or electronic mail is not necessarily secure and that there are risks associated with such use, including risks of interception, disclosure and abuse, and each Loan Party and each Lender assumes and accepts such risks by hereby authorizing the transmission via E-Systems or electronic mail. Each “e-signature” on any such posting shall be deemed sufficient to satisfy any requirement for a “signature”, and each such posting shall be deemed sufficient to satisfy any requirement for a “writing”, in each case including pursuant to any Loan Document, any applicable provision of any UCC, the federal Uniform Electronic Transactions Act, the Electronic Signatures in Global and National Commerce Act and any substantive or procedural Requirement of Law governing such subject matter. All uses of an E-System shall be governed by and subject to, in addition to this Section, the separate terms, conditions and privacy policy

posted or referenced in such E-System (or such terms, conditions and privacy policy as may be updated from time to time, including on such E-System) and related contractual obligations executed by Agent, Loan Parties and/or Lenders in connection with the use of such E-System. ALL E-SYSTEMS AND ELECTRONIC TRANSMISSIONS SHALL BE PROVIDED "AS IS" AND "AS AVAILABLE". NO REPRESENTATION OR WARRANTY OF ANY KIND IS MADE BY AGENT, ANY LENDER OR ANY OF THEIR RELATED PERSONS IN CONNECTION WITH ANY E-SYSTEMS.

9.3 **Agent's Reliance, Etc.** Agent may, without incurring any liability hereunder, (a) treat the payee of any Note as its holder until such Note has been assigned in accordance with Section 10.1, (b) consult with any of its Related Persons and, whether or not selected by it, any other advisors, accountants and other experts (including advisors to, and accountants and experts engaged by, any Loan Party) and (c) rely and act upon any document and information (including those transmitted by electronic transmission) and any telephone message or conversation, in each case believed by it to be genuine and transmitted, signed or otherwise authenticated by the appropriate parties. None of Agent and its Related Persons shall be liable for any action taken or omitted to be taken by any of them under or in connection with any Loan Document, and each Lender and each Loan Party hereby waives and shall not assert (and each Loan Party shall cause its Subsidiaries to waive and agree not to assert) any right, claim or cause of action based thereon, except to the extent of liabilities resulting from the gross negligence or willful misconduct of Agent or, as the case may be, such Related Person (each as determined in a final, non-appealable judgment of a court of competent jurisdiction) in connection with the duties of Agent expressly set forth herein. Without limiting the foregoing, Agent: (i) shall not be responsible or otherwise incur liability for any action or omission taken in reliance upon the instructions of the Requisite Lenders or for the actions or omissions of any of its Related Persons, except to the extent that a court of competent jurisdiction determines in a final non-appealable judgment that Agent acted with gross negligence or willful misconduct in the selection of such Related Person; (ii) shall not be responsible to any Lender or other Person for the due execution, legality, validity, enforceability, effectiveness, genuineness, sufficiency or value of, or the attachment, perfection or priority of any Lien created or purported to be created under or in connection with, any Loan Document; (iii) makes no warranty or representation, and shall not be responsible, to any Lender or other Person for any statement, document, information, representation or warranty made or furnished by or on behalf of any Loan Party or any Related Person of any Loan Party in connection with any Loan Document or any transaction contemplated therein or any other document or information with respect to any Loan Party, whether or not transmitted or (except for documents expressly required under any Loan Document to be transmitted to the Lenders) omitted to be transmitted by Agent, including as to completeness, accuracy, scope or adequacy thereof, or for the scope, nature or results of any due diligence performed by Agent in connection with the Loan Documents; and (iv) shall not have any duty to ascertain or to inquire as to the performance or observance of any provision of any Loan Document, whether any condition set forth in any Loan Document is satisfied or waived, as to the financial condition of any Loan Party or as to the existence or continuation or possible occurrence or continuation of any Default or Event of Default, and shall not be deemed to have notice or knowledge of such occurrence or continuation unless it has received a notice from Borrower or any Lender describing such Default or Event of Default that is clearly labeled "notice of default" (in which case Agent shall promptly give notice of such receipt to all Lenders, provided that Agent shall not be liable to any Lender for any failure to do so, except to the extent that such failure is attributable to Agent's gross negligence or willful misconduct as determined by a final non-appealable judgment of a court of competent jurisdiction); and, for each of the items set forth in clauses (i) through (iv) above, each Lender and each Loan Party hereby waives and agrees not to assert (and each Loan Party shall cause its Subsidiaries to waive and agree not to assert) any right, claim or cause of action it might have against Agent based thereon.

9.4 **Agent Individually.** Agent and its Affiliates may make loans and other extensions of credit to, acquire Stock and Stock Equivalents of, engage in any kind of business with, any Loan Party or Affiliate thereof as though it were not acting as Agent and may receive separate fees and other payments therefor. To the extent Agent or any of its Affiliates makes any Loans or otherwise becomes a Lender hereunder, it shall have and may exercise the same rights and powers hereunder and shall be subject to the same obligations and liabilities as any other Lender and the terms "Lender", "Requisite Lender" and any similar terms shall, except where otherwise expressly provided in any Loan Document, include, without limitation, Agent or such Affiliate, as the case may be, in its individual capacity as Lender, or as one of the Requisite Lenders.

9.5 **Lender Credit Decision; Agent Report.** Each Lender acknowledges that it shall, independently and without reliance upon Agent, any Lender or any of their Related Persons or upon any document solely or in part because such document was transmitted by Agent or any of its Related Persons, conduct its own independent

investigation of the financial condition and affairs of each Loan Party and make and continue to make its own credit decisions in connection with entering into, and taking or not taking any action under, any Loan Document or with respect to any transaction contemplated in any Loan Document, in each case based on such documents and information as it shall deem appropriate. Except for documents expressly required by any Loan Document to be transmitted by Agent to the Lenders, Agent shall not have any duty or responsibility to provide any Lender with any credit or other information concerning the business, prospects, operations, Property, financial and other condition or creditworthiness of any Loan Party or any Affiliate of any Loan Party that may come in to the possession of Agent or any of its Related Persons. Each Lender agrees that is shall not rely on any field examination, audit or other report provided by Agent or its Related Persons (an "Agent Report"). Each Lender further acknowledges that any Agent Report (a) is provided to the Lenders solely as a courtesy, without consideration, and based upon the understanding that such Lender will not rely on such Agent Report, (b) was prepared by Agent or its Related Persons based upon information provided by the Loan Parties solely for Agent's own internal use, and (c) may not be complete and may not reflect all information and findings obtained by Agent or its Related Persons regarding the operations and condition of the Loan Parties. Neither Agent nor any of its Related Persons makes any representations or warranties of any kind with respect to (i) any existing or proposed financing, (ii) the accuracy or completeness of the information contained in any Agent Report or in any related documentation, (iii) the scope or adequacy of Agent's and its Related Persons' due diligence, or the presence or absence of any errors or omissions contained in any Agent Report or in any related documentation, and (iv) any work performed by Agent or Agent's Related Persons in connection with or using any Agent Report or any related documentation. Neither Agent nor any of its Related Persons shall have any duties or obligations in connection with or as a result of any Lender receiving a copy of any Agent Report. Without limiting the generality of the forgoing, neither Agent nor any of its Related Persons shall have any responsibility for the accuracy or completeness of any Agent Report, or the appropriateness of any Agent Report for any Lender's purposes, and shall have no duty or responsibility to correct or update any Agent Report or disclose to any Lender any other information not embodied in any Agent Report, including any supplemental information obtained after the date of any Agent Report. Each Lender releases, and agrees that it will not assert, any claim against Agent or its Related Persons that in any way relates to any Agent Report or arises out of any Lender having access to any Agent Report or any discussion of its contents, and agrees to indemnify and hold harmless Agent and its Related Persons from all claims, liabilities and expenses relating to a breach by any Lender arising out of such Lender's access to any Agent Report or any discussion of its contents.

9.6 **Indemnification.** Each Lender agrees to reimburse Agent and each of its Related Persons (to the extent not reimbursed by any Loan Party) promptly upon demand for its Pro Rata Share of any out-of-pocket costs and expenses (including, without limitation, fees, charges and disbursements of financial, legal and other advisors and any taxes or insurance paid in the name of, or on behalf of, any Loan Party) incurred by Agent or any of its Related Persons in connection with the preparation, syndication, execution, delivery, administration, modification, amendment, consent, waiver or enforcement of, or the taking of any other action (whether through negotiations, through any work-out, bankruptcy, restructuring or other legal or other proceeding (including, without limitation, preparation for and/or response to any subpoena or request for document production relating thereto) or otherwise) in respect of, or legal advice with respect to, its rights or responsibilities under, any Loan Document. Each Lender further agrees to indemnify Agent and each of its Related Persons (to the extent not reimbursed by any Loan Party), ratably according to its Pro Rata Share, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever (including, to the extent not indemnified by the applicable Lender, taxes, interests and penalties imposed for not properly withholding or backup withholding on payments made to or for the account of any Lender) that may be imposed on, incurred by, or asserted against Agent or any of its Related Persons in any matter relating to or arising out of, in connection with or as a result of any Loan Document or any other act, event or transaction related, contemplated in or attendant to any such document, or, in each case, any action taken or omitted to be taken by Agent or any of its Related Persons under or with respect to the foregoing; provided that no Lender shall be liable to Agent or any of its Related Persons under this Section 9.6 to the extent such liability has resulted from the gross negligence or willful misconduct of Agent or, as the case may be, such Related Person, as determined by a final non-appealable judgment of a court of competent jurisdiction. To the extent required by any applicable Requirement of Law, Agent may withhold from any payment to any Lender under a Loan Document an amount equal to any applicable withholding tax. If the Internal Revenue Service or any other Governmental Authority asserts a claim that Agent did not properly withhold tax from amounts paid to or for the account of any Lender for any reason, or if Agent reasonably determines that it was required to withhold taxes from a prior payment to or for the account of any Lender but failed to do so, such Lender shall promptly indemnify Agent fully for all amounts paid, directly or indirectly, by Agent as tax or otherwise, including penalties and interest, and together with all expenses incurred by Agent. Agent may

offset against any payment to any Lender under a Loan Document, any applicable withholding tax that was required to be withheld from any prior payment to such Lender but which was not so withheld, as well as any other amounts for which Agent is entitled to indemnification from such Lender under the immediately preceding sentence of this Section 9.6.

9.7 **Successor Agent.** Agent may resign at any time by delivering notice of such resignation to the Lenders and Borrower, effective on the date set forth in such notice or, if no such date is set forth therein, upon the date such notice shall be effective, in accordance with the terms of this Section 9.7. If Agent delivers any such notice, the Requisite Lenders shall have the right to appoint a successor Agent. If, after 30 days after the date of the retiring Agent's notice of resignation, no successor Agent has been appointed by the Requisite Lenders that has accepted such appointment, then the retiring Agent may, on behalf of the Lenders, appoint a successor Agent from among the Lenders. Effective immediately upon its resignation, (a) the retiring Agent shall be discharged from its duties and obligations under the Loan Documents, (b) the Lenders shall assume and perform all of the duties of Agent until a successor Agent shall have accepted a valid appointment hereunder, (c) the retiring Agent and its Related Persons shall no longer have the benefit of any provision of any Loan Document other than with respect to any actions taken or omitted to be taken while such retiring Agent was, or because such Agent had been, validly acting as Agent under the Loan Documents, and (iv) subject to its rights under Section 9.2(b), the retiring Agent shall take such action as may be reasonably necessary to assign to the successor Agent its rights as Agent under the Loan Documents. Effective immediately upon its acceptance of a valid appointment as Agent, a successor Agent shall succeed to, and become vested with, all the rights, powers, privileges and duties of the retiring Agent under the Loan Documents.

9.8 **Release of Collateral.** Each Lender hereby consents to the release and hereby directs Agent to release (or in the case of (b)(ii) below, release or subordinate) the following:

(a) any Guarantor if all of the Stock of such Subsidiary owned by any Loan Party is sold or transferred in a transaction permitted under the Loan Documents (including pursuant to a valid waiver or consent), to the extent that, after giving effect to such transaction, such Subsidiary would not be required to guaranty any Obligations pursuant to any Loan Document; and

(b) any Lien held by Agent for the benefit of itself and the Lenders against (i) any Collateral that is sold or otherwise disposed of by a Loan Party in a transaction permitted by the Loan Documents (including pursuant to a valid waiver or consent), (ii) any Collateral subject to a Lien that is expressly permitted under clause (d) of the definition of the term "Permitted Lien" and (iii) all of the Collateral and all Loan Parties, upon (A) termination of all of the Commitments, (B) payment in full in cash of all of the Obligations (other than contingent indemnity obligations that survive termination of this Agreement and for which no claim has been asserted) that Agent has theretofore been notified in writing by the holder of such Obligation are then due and payable, and (C) to the extent requested by Agent, receipt by Agent and Lenders of liability releases from the Loan Parties in form and substance reasonably acceptable to Agent (the satisfaction of the conditions in this clause (iii), the "Termination Date").

9.9 **Setoff and Sharing of Payments.** In addition to any rights now or hereafter granted under any applicable Requirement of Law and not by way of limitation of any such rights, upon the occurrence and during the continuance of any Event of Default and subject to Section 9.10(d), each Lender is hereby authorized at any time or from time to time upon the direction of Agent, without notice to any Loan Party or any other Person, any such notice being hereby expressly waived, to setoff and to appropriate and to apply any and all balances held by it at any of its offices for the account of the Loan Parties (regardless of whether such balances are then due to the Loan Parties) and any other properties or assets at any time held or owing by that Lender or that holder to or for the credit or for the account of any Loan Party against and on account of any of the Obligations that are not paid when due. Any Lender exercising a right of setoff or otherwise receiving any payment on account of the Obligations in excess of its Pro Rata Share thereof shall purchase for cash (and the other Lenders or holders shall sell) such participations in each such other Lender's or holder's Pro Rata Share of the Obligations as would be necessary to cause such Lender to share the amount so offset or otherwise received with each other Lender or holder in accordance with their respective Pro Rata Shares of the Obligations. Each Loan Party agrees, to the fullest extent permitted by law, that (a) any Lender may exercise its right to offset with respect to amounts in excess of its Pro Rata Share of the Obligations and may purchase participations in accordance with the preceding sentence and (b) any Lender so purchasing a participation in the Loans made or other Obligations held by other Lenders or holders may exercise all

rights of offset, bankers' lien, counterclaim or similar rights with respect to such participation as fully as if such Lender or holder were a direct holder of the Loans and the other Obligations in the amount of such participation. Notwithstanding the foregoing, if all or any portion of the offset amount or payment otherwise received is thereafter recovered from the Lender that has exercised the right of offset, the purchase of participations by that Lender shall be rescinded and the purchase price restored without interest.

9.10 **Advances; Payments; Non-Funding Lenders; Actions in Concert**.

(a) Advances; Payments.

(i) Term Loans. If Agent receives any payment with respect to a Term Loan for the account of Lenders on or prior to 2:00 p.m. (New York time) on any Business Day, Agent shall pay to each applicable Lender such Lender's Pro Rata Share of such payment on such Business Day. If Agent receives any payment with respect to a Term Loan for the account of Lenders after 2:00 p.m. (New York time) on any Business Day, Agent shall pay to each applicable Lender such Lender's Pro Rata Share of such payment on the next Business Day.

(ii) Revolving Loans. At least once during each calendar week or more frequently at Agent's election (each, a "Settlement Date"), Agent shall advise each Revolving Lender by telephone or facsimile of the amount of such Lender's Pro Rata Share of principal, interest and fees paid for the benefit of Revolving Lenders with respect to each applicable Revolving Loan. Agent shall pay to each Revolving Lender (other than a Non-Funding Lender) such Revolving Lender's Pro Rata Share of principal, interest and fees paid by Borrower since the previous Settlement Date for the benefit of such Revolving Lender on the Revolving Loans held by it. Such payments shall be made by wire transfer to such Revolving Lender on the next Business Day following each Settlement Date.

(b) Return of Payments.

(i) If Agent pays an amount to a Lender under this Agreement in the belief or expectation that a related payment has been or will be received by Agent from a Loan Party and such related payment is not received by Agent, then Agent will be entitled to recover such amount (including interest accruing on such amount at the rate otherwise applicable to such Obligation) from such Lender on demand without setoff, counterclaim or deduction of any kind.

(ii) If Agent determines at any time that any amount received by Agent under any Loan Document must be returned to a Loan Party or paid to any other Person pursuant to any insolvency law or otherwise, then, notwithstanding any other term or condition of any Loan Document, Agent will not be required to distribute any portion thereof to any Lender. In addition, each Lender will repay to Agent on demand any portion of such amount that Agent has distributed to such Lender, together with interest at such rate, if any, as Agent is required to pay to a Loan Party or such other Person, without setoff, counterclaim or deduction of any kind and Agent will be entitled to setoff against future distributions to such Lender any such amounts (with interest) that are not repaid on demand.

(c) Non-Funding Lenders.

(i) Unless Agent shall have received notice from a Lender prior to the date of any Loan that such Lender will not make available to Agent such Lender's Pro Rata Share of such Loan, Agent may assume that such Lender will make such amount available to it on the date of such Loan in accordance with Section 2.2(b), and Agent may (but shall not be obligated to), in reliance upon such assumption, make available a corresponding amount for the account of Borrower on such date. If and to the extent that such Lender shall not have made such amount available to Agent, such Lender and Borrower severally agree to repay to Agent forthwith on demand such corresponding amount together with interest thereon, for each day from the day such amount is made available to Borrower until the day such amount is repaid to Agent, at a rate per annum equal to the interest rate applicable to the Obligation that would have been created when

Agent made available such amount to Borrower had such Lender made a corresponding payment available. If such Lender shall repay such corresponding amount to Agent, the amount so repaid shall constitute such Lender's portion of such Loan for purposes of this Agreement.

(ii) To the extent that any Lender has failed to fund any Loan or any other payments required to be made by it under the Loan Documents after any such Loan is required to be made or such payment is due (a "Non-Funding Lender"), Agent shall be entitled to set off the funding short-fall against that Non-Funding Lender's Pro Rata Share of all payments received from the Loan Parties. The failure of any Non-Funding Lender to make any Loan or any payment required by it hereunder shall not relieve any other Lender (each such other Lender, an "Other Lender") of its obligations to make such Loan, but neither any Other Lender nor Agent shall be responsible for the failure of any Non-Funding Lender to make such Loan or make any other payment required hereunder. Notwithstanding anything set forth herein to the contrary, a Non-Funding Lender shall not have any voting or consent rights under or with respect to any Loan Document or constitute a "Lender" (or be included in the calculation of "Requisite Lender" hereunder) for any voting or consent rights under or with respect to any Loan Document. A Non-Funding Lender shall not earn, and Borrower shall not be required to pay, such Lender's portion of the Unused Revolving Commitment Fee described in Section 2.6(c) during the time such Lender is a Non-Funding Lender. At Borrower's request, Agent or a Person reasonably acceptable to Agent shall have the right with Agent's consent and in Agent's sole discretion (but Agent or any such Person shall have no obligation) to purchase from any Non-Funding Lender, and each Lender agrees that if it becomes a Non-Funding Lender it shall, at Agent's request, sell and assign to Agent or such Person, all of the Term Loan Commitment (if any), and all of the outstanding Term Loan, and/or all of the Revolving Loan Commitment (if any) and the outstanding Revolving Loans of that Non-Funding Lender for an amount equal to the aggregate outstanding principal balance of the Term Loan and/or the Revolving Loans, as applicable, held by such Non-Funding Lender and all accrued interest with respect thereto through the date of sale, such purchase and sale to be consummated pursuant to an executed Assignment Agreement.

(d) Actions in Concert. Anything in this Agreement to the contrary notwithstanding, each Lender hereby agrees with each other Lender that no Lender shall take any action to protect or enforce its rights arising out of any Loan Document (including exercising any rights of setoff) without first obtaining the prior written consent of Agent or Requisite Lenders, it being the intent of Lenders that any such action to protect or enforce rights under any Loan Document shall be taken in concert and at the direction or with the consent of Agent or Requisite Lenders.

10. MISCELLANEOUS.

10.1 Assignment.

(a) Each Lender may sell, transfer or assign, at any time or times, all or a portion of its rights and obligations hereunder and under the other Loan Documents (including, without limitation, all or a portion of its Commitments and its rights and obligations with respect to its Loans) to any Qualified Assignee; provided, however, that any such sale, transfer or assignment shall (i) require the execution of an assignment agreement in form and substance reasonably satisfactory to, and acknowledged by, Agent (an "Assignment Agreement"), (ii) be in an amount of not less than $1,000,000, unless such assignment is made to an existing Lender or an Affiliate of an existing Lender or is of the assignor's (together with its Affiliates') entire interest in such facility or is made with the prior written consent of Agent, (iii) unless otherwise agreed to by Agent, be in an equal proportion of such Lender's Revolving Loans and Terms Loan and its Revolving Loan Commitment and Term Loan Commitment, and (iv) include a payment to Agent of an assignment fee of $3,500 (unless otherwise agreed by Agent). In the case of an assignment by a Lender under this Section 10.1(a), the assignee shall have, to the extent of such assignment, the same rights, benefits and obligations as all other Lenders hereunder. The assigning Lender shall be relieved of its obligations hereunder with respect to the assigned portion of its Commitments and Loans from and after the date of such assignment. Borrower hereby acknowledges and agrees that any assignment shall give rise to a direct obligation of Borrower to the assignee and that the assignee shall be considered to be a "Lender". In the event any Lender assigns or otherwise transfers all or any part of the Commitments or Loans, Borrower shall, upon the assignee's or the assignor's request, execute new Notes in exchange for the Notes, if any, being assigned. Agent may amend Schedule A to this Agreement to reflect assignments made in accordance with this Section 10.1.

(b) In addition to the other rights provided in this Section 10.1, each Lender may, without notice to or consent from any other Person, sell participations to one or more Persons in or to all or a portion of its rights and obligations under the Loan Documents (including all of its rights and obligations with respect to the Loans); provided, however, that, whether as a result of any term of any Loan Document or of such participation, (i) no such participant shall have a commitment, or be deemed to have made an offer to commit, to make any Loan hereunder, and, no such participant shall be liable for any obligation of such Lender hereunder, (ii) such Lender's rights and obligations, and the rights and obligations of the Loan Parties and Agent and other Lenders towards such Lender, under any Loan Document shall remain unchanged and each other party hereto shall continue to deal solely with such Lender, which shall remain the holder of the Obligations, and in no case shall a participant have the right to enforce any of the terms of any Loan Document, and (iii) the consent of such participant shall not be required (either directly, as a restraint on such Lender's ability to consent hereunder or otherwise) for any amendments, waivers or consents with respect to any Loan Document or to exercise or refrain from exercising any powers or rights such Lender may have under or in respect of the Loan Documents (including the right to enforce or direct enforcement of the Obligations), except for those described in clauses (ii), (iii) and (iv) of Section 10.6(a).

(c) In addition to the other rights provided in this Section 10.1, each Lender may grant a security interest in, or otherwise assign as collateral, any of its rights under this Agreement, whether now owned or hereafter acquired (including rights to payments of principal or interest on the Loans), to (A) any federal reserve bank (pursuant to Regulation A of the Federal Reserve Board), without notice to Agent or (B) any holder of, or trustee for the benefit of the holders of, such Lender's Indebtedness or equity securities, by notice to Agent; provided, however, that no such holder or trustee, whether because of such grant or assignment or any foreclosure thereon (unless such foreclosure is made through an assignment in accordance with clause (a) above), shall be entitled to any rights of such Lender hereunder and no such Lender shall be relieved of any of its obligations hereunder.

10.2 **Notices.** All notices or other communications given in connection with the Loan Documents shall be in writing, shall be addressed to the parties at their respective addresses set forth on the signature pages hereto below such parties' name or in the most recent Assignment Agreement executed by any Lender (unless and until a different address may be specified in a written notice to the other party delivered in accordance with this Section 10.2), and shall be deemed given (a) on the date of receipt if delivered by hand, (b) on the date of sender's receipt of confirmation of proper transmission if sent by facsimile transmission, (c) on the next Business Day after being sent by a nationally-recognized overnight courier, (d) on the fourth Business Day after being sent by registered or certified mail, postage prepaid, (e) on the date of proper transmission if sent by electronic mail, provided that transmissions may be made by electronic mail only for notices or other communications if such transmission is specifically authorized in a Loan Document and such transmission is delivered in compliance with procedures of Agent applicable at the time and previously communicated to Borrower, or (f) on the later of the Business Day of such posting and the Business Day access to such posting is given to the recipient thereof in accordance with the standard procedures applicable to such E-System, if posted to any E-System approved by or set-up by or at the direction of Agent.

10.3 **Payment of Fees and Expenses.** Loan Parties agree, jointly and severally, to pay or reimburse upon demand for all reasonable fees, costs and expenses incurred by Agent and Lenders in connection with (a) the investigation, preparation, negotiation, execution, administration of, or any amendment, modification, waiver or termination of, any Loan Document, (b) any legal advice relating to Agent's rights or responsibilities under any Loan Document, (c) the administration of the Loans and the facilities hereunder and any other transaction contemplated under any Loan Document and (d) the enforcement, assertion, defense or preservation of Agent's and Lenders' rights and remedies under the Loan Documents, including, without limitation, preparation for and/or response to any subpoena or request for document production relating thereto, in each case of clauses (a) through (d), including, without limitation, reasonable attorneys' fees and expenses, reasonable fees and expenses of consultants, auditors (including internal auditors) and appraisers, internal audit reviews and field examinations (subject to the terms of this Agreement) and UCC and other corporate search and filing fees and wire transfer fees. Each Loan Party further agrees that such fees, costs and expenses shall constitute Obligations. The Agent acknowledges receipt of a $45,000 deposit from the Borrower prior to the Closing Date which shall be applied to any such fees and expenses.

10.4 **Indemnity.** Each Loan Party agrees, jointly and severally, to indemnify, hold harmless and defend Agent, each Lender, and each of their respective Related Persons (each an "Indemnitee") from and against all liabilities, losses, damages, expenses, penalties, claims, actions and suits (including, without limitation, related reasonable attorneys' fees and expenses) of any kind whatsoever arising, directly or indirectly, that may be imposed on, incurred by or asserted against such Indemnitee as a result of or in connection with any Loan Documents, any E-System, or any of the transactions contemplated hereby or thereby, including, without limitation, any actual or prospective investigation, litigation or other proceeding, whether or not brought by any such Indemnitee or any of its Related Persons or whether or not any such Person is a party thereto (the "Indemnified Liabilities"); provided that, no Loan Party shall have any obligation to any Indemnitee with respect to any Indemnified Liabilities to the extent such Indemnified Liabilities arise from the gross negligence or willful misconduct of such Indemnitee as determined by a final non-appealable judgment of a court of competent jurisdiction. In no event shall any Indemnitee be liable on any theory of liability for any special, indirect, consequential or punitive damages (including, without limitation, any loss of profits, business or anticipated savings). Each Loan Party waives, releases and agrees (and shall cause each other Loan Party to waive, release and agree) not to sue upon any such claim for any special, indirect, consequential or punitive damages, whether or not accrued and whether or not known or suspected to exist in its favor.

10.5 **Rights Cumulative.** Agent's and Lenders' rights and remedies under the Loan Documents or otherwise arising are cumulative and may be exercised singularly or concurrently. Neither the failure nor any delay on the part of Agent or any Lender to exercise any right, power or privilege under any Loan Document shall operate as a waiver, nor shall any single or partial exercise of any right, power or privilege preclude any other or further exercise of that or any other right, power or privilege. NEITHER AGENT NOR ANY LENDER SHALL BE DEEMED TO HAVE WAIVED ANY OF ITS RESPECTIVE RIGHTS UNDER ANY LOAN DOCUMENT OR UNDER ANY OTHER AGREEMENT, INSTRUMENT OR PAPER SIGNED BY A LOAN PARTY UNLESS SUCH WAIVER IS EXPRESSED IN WRITING AND SIGNED BY AGENT, REQUISITE LENDERS OR ALL LENDERS, AS APPLICABLE. A waiver on any one occasion shall not be construed as a bar to or waiver of any right or remedy on any future occasion.

10.6 **Amendments, Waivers.**

(a) No amendment or waiver of any provision of any Loan Document, and no consent with respect to any departure by any Loan Party therefrom, shall be effective unless the same shall be in writing and signed by Agent, Requisite Lenders (or by Agent with the consent of Requisite Lenders) and Borrower; provided that no such amendment, waiver or consent shall, unless in writing and signed by all Lenders directly affected thereby (or by Agent with the consent of all Lenders directly affected thereby), in addition to Agent, Requisite Lenders (or by Agent with the consent of Requisite Lenders) and Borrower, do any of the following: (i) increase or decrease the amount of, or extend the term of, any Commitment (which shall be deemed to affect all Lenders), (ii) reduce the principal of or rate of interest on (other than waiving the imposition of the Default Rate) any Loan or reduce the amount of any fees payable under any Loan Document, (iii) postpone the date fixed for or reduce or waive any scheduled installment of principal or any payment of interest or fees due to any Lender under the Loan Documents, (iv) release or subordinate the Lien on all or substantially all of the Collateral, except as otherwise may be provided in any Loan Document (which shall be deemed to affect all Lenders), (v) release a Loan Party from, or consent to a Loan Party's assignment or delegation of, such Loan Party's obligations under the Loan Documents (which shall be deemed to affect all Lenders), except as otherwise may be provided in any Loan Document, (vi) amend, modify, terminate or waive Sections 8.3, 9.9, or 10.6(a), or (vii) amend or modify the definition of "Requisite Lenders" or any provision providing for the consent or other action by all Lenders.

(b) Notwithstanding any provision in this Section 10.6 to the contrary, (i) no amendment, modification, termination or waiver affecting or modifying the rights or obligations of Agent under any Loan Document shall be effective unless signed by Borrower, Agent and Requisite Lenders, (ii) Agent may amend Schedule A to reflect assignments permitted hereunder, and (iii) Agent and Borrower may amend or modify any Loan Document to grant a new Lien, extend an existing Lien over additional Property or join additional Persons as Loan Parties, in each case for the benefit of Agent and Lenders.

10.7 **Performance.** Time is of the essence of the Loan Documents.

10.8 **Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns; provided that any assignment by any Lender shall be subject to the provisions of Section 10.1, and provided further that no Loan Party may assign or transfer any of its rights or obligations under this Agreement without the prior written consent of Agent and each Lender. No other Person shall be deemed a third party beneficiary of this Agreement. This Agreement shall continue in full force and effect until the Termination Date; provided, however, that the provisions of this Section 10.8 and Sections 2.4(e), 9.6, 10.3, 10.4, 10.11 and 10.12 and the other indemnities contained in the Loan Documents shall survive the Termination Date. The surrender, upon payment or otherwise, of any Note or any other Loan Document evidencing any of the Obligations shall not affect the right of Agent to retain the Collateral for such other Obligations as may then exist or as it may be reasonably contemplated will exist in the future. To the extent Agent or any Lender receives any payment in respect of the Obligations and such payment is subsequently, in whole or in part, invalidated, declared to be fraudulent or preferential, set aside or otherwise required to be paid to any other Person, then to the extent of such recovery, the Obligation or part thereof originally intended to be satisfied, and all Liens, rights and remedies therefor, shall be revived and continued in full force and effect as if such payment had not occurred.

10.9 **Creditor-Debtor Relationship.** The relationship between Agent and each Lender, on the one hand, and the Loan Parties, on the other hand, is solely that of creditor and debtor. Neither Agent nor any Lender has any fiduciary relationship or duty to any Loan Party arising out of or in connection with, and there is no agency, tenancy or joint venture relationship between Agent or Lenders and Loan Parties by virtue of, any Loan Document or any transaction contemplated herein or therein.

10.10 **Tombstones and Related Matters.** Each Loan Party consents to the publication by Agent or any Lender of any press releases, tombstone, advertising or other promotional materials (including, without limitation, via any electronic transmission) relating to the financing transaction contemplated by this Agreement using such Loan Party's name, product, photographs, logo or trademark. No Loan Party shall, and no Loan Party shall permit any of its Affiliates to, issue any press release or other public disclosure (other than any document filed with any Governmental Authority relating to a public offering of the securities of any Loan Party) using the name, logo or otherwise referring to General Electric Capital Corporation, GE Healthcare Financial Services, Inc. or of any of their respective Affiliates, the Loan Documents or any transaction contemplated herein or therein to which any of them is a party without the prior written consent of Agent except to the extent required to do so under applicable Requirements of Law and then, only after consulting with Agent.

10.11 **Waiver of Jury Trial.** EACH OF THE LOAN PARTIES, AGENT AND LENDERS UNCONDITIONALLY WAIVES ANY AND ALL RIGHT TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, ANY OF THE OTHER LOAN DOCUMENTS, ANY OF THE INDEBTEDNESS SECURED HEREBY, ANY DEALINGS AMONG LOAN PARTIES, AGENT AND/OR LENDERS RELATING TO THE SUBJECT MATTER OF THIS TRANSACTION OR ANY RELATED TRANSACTIONS, AND/OR THE RELATIONSHIP THAT IS BEING ESTABLISHED AMONG LOAN PARTIES, AGENT AND/OR LENDERS. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT. THIS WAIVER IS IRREVOCABLE. THIS WAIVER MAY NOT BE MODIFIED EITHER ORALLY OR IN WRITING. THE WAIVER ALSO SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO THIS AGREEMENT, ANY OTHER LOAN DOCUMENTS, OR TO ANY OTHER DOCUMENTS OR AGREEMENTS RELATING TO THIS TRANSACTION OR ANY RELATED TRANSACTION. THIS AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.

10.12 **Governing Law and Jurisdiction.**

(a) GOVERNING LAW. THIS AGREEMENT, THE OTHER LOAN DOCUMENTS (EXCLUDING THOSE LOAN DOCUMENTS THAT BY THEIR OWN TERMS ARE EXPRESSLY GOVERNED BY THE LAWS OF ANOTHER JURISDICTION) AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND THEREUNDER SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES OF SUCH STATE), INCLUDING ALL

MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE COLLATERAL, PROVIDED, HOWEVER, THAT IF THE LAWS OF ANY JURISDICTION OTHER THAN NEW YORK SHALL GOVERN IN REGARD TO THE VALIDITY, PERFECTION OR EFFECT OF PERFECTION OF ANY LIEN OR IN REGARD TO PROCEDURAL MATTERS AFFECTING ENFORCEMENT OF ANY LIENS IN COLLATERAL, SUCH LAWS OF SUCH OTHER JURISDICTIONS SHALL CONTINUE TO APPLY TO THAT EXTENT.

(b) Submission to Jurisdiction. Any legal action or proceeding with respect to the Loan Documents shall be brought exclusively in the courts of the State of New York located in the City of New York, Borough of Manhattan, or of the United States of America for the Southern District of New York and, by execution and delivery of this Agreement, each Loan Party hereby accepts for itself and in respect of its Property, generally and unconditionally, the jurisdiction of the aforesaid courts. Notwithstanding the foregoing, Agent and Lenders shall have the right to bring any action or proceeding against any Loan Party (or any Property of such Loan Party) in the court of any other jurisdiction Agent or Lenders deem necessary or appropriate in order to realize on the Collateral or other security for the Obligations. The parties hereto hereby irrevocably waive any objection, including any objection to the laying of venue or based on the grounds of *forum non conveniens*, that any of them may now or hereafter have to the bringing of any such action or proceeding in such jurisdictions.

(c) Service of Process. Each Loan Party hereby irrevocably waives personal service of any and all legal process, summons, notices and other documents and other service of process of any kind and consents to such service in any suit, action or proceeding brought in the United States of America with respect to or otherwise arising out of or in connection with any Loan Document by any means permitted by applicable Requirements of Law, including by the mailing thereof (by registered or certified mail, postage prepaid) to the address of Borrower specified herein (and shall be effective when such mailing shall be effective, as provided therein). Each Loan Party agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(d) Non-exclusive Jurisdiction. Nothing contained in this Section 10.12 shall affect the right of Agent or Lenders to serve process in any other manner permitted by applicable Requirements of Law or commence legal proceedings or otherwise proceed against any Loan Party in any other jurisdiction.

10.13 **Confidentiality.** Each Lender and Agent agrees to use all reasonable efforts to maintain, in accordance with its customary practices, the confidentiality of information obtained by it pursuant to any Loan Document and designated in writing by any Loan Party as confidential, except that such information may be disclosed (a) with Borrower's consent, (b) to such Lender's or Agent's Related Persons, as the case may be, that are advised of the confidential nature of such information and are instructed to keep such information confidential in accordance with the terms hereof, (c) to the extent such information presently is or hereafter becomes (i) publicly available other than as a result of a breach of this Section 10.13 or (ii) available to such Lender or Agent or any of their Related Persons, as the case may be, from a source (other than any Loan Party) not known by them to be subject to disclosure restrictions, (d) to the extent disclosure is required by any applicable Requirements of Law, or other legal, administrative, governmental or regulatory request, order or proceeding or otherwise requested or demanded by any Governmental Authority, (e) to the extent necessary or customary for inclusion in league table measurements, (f) (i) to the National Association of Insurance Commissioners or any similar organization, any examiner or any nationally recognized rating agency or (ii) otherwise to the extent consisting of general portfolio information that does not identify Loan Parties, (g) to current or prospective assignees or participants and to their respective Related Persons, in each case to the extent such assignees, participants or Related Persons agree to be bound by provisions substantially similar to the provisions of this Section 10.13 (and such Persons may disclose information to their respective Related Persons in accordance with clause (b) above), (h) to any other party hereto, and (i) in connection with the exercise or enforcement of any right or remedy under any Loan Document, in connection with any litigation or other proceeding to which such Lender or Agent or any of their Related Persons is a party or bound, or to the extent necessary to respond to public statements or disclosures by Loan Parties or their Related Persons referring to a Lender or Agent or any of their Related Persons. In the event of any conflict between the terms of this Section 10.13 and those of any other contractual obligation entered into with any Loan Party (whether or not a Loan Document), the terms of this Section 10.13 shall govern.

10.14 **USA Patriot Act.** Each Lender that is subject to the Patriot Act hereby notifies Loan Parties that pursuant to the requirements of the Patriot Act, it is required to obtain, verify and record information that identifies each Loan Party, which information includes the name and address of each Loan Party and other information that will allow such Lender to identify each Loan Party in accordance with the Patriot Act.

10.15 **Severability.** Any provision of any Loan Document being held illegal, invalid or unenforceable in any jurisdiction shall not affect any part of such provision not held illegal, invalid or unenforceable, any other provision of any Loan Document or any part of such provision in any other jurisdiction.

10.16 **Entire Agreement; Counterparts.** The Loan Documents constitute the entire agreement of the parties and supersede all prior agreements and understandings (whether written, verbal or implied) with respect to the subject matter thereof (including, without limitation, any proposal letter or confidentiality agreement between the parties hereto or any of their respective Affiliates relating to a financing of substantially similar form, purpose or effect). Section headings contained in this Agreement have been included for convenience only, and shall not affect the construction or interpretation of this Agreement. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which when taken together shall constitute one and the same agreement. Delivery of an executed signature page of this Agreement by facsimile transmission or electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

10.17 **Duty of Agent With Respect to Collateral; Marshaling.** Agent's sole duty with respect to the custody, safekeeping and physical preservation of the Collateral in its possession shall be to deal with it in a reasonable manner and as Agent deals with similar property for its own account. The powers conferred on Agent hereunder are solely to protect Agent's interest in the Collateral and shall not impose any duty upon Agent to exercise any such powers. Agent shall be accountable only for amounts that it receives as a result of the exercise of such powers, and neither Agent nor any Indemnitee shall be responsible to any Loan Party for any act or failure to act hereunder, except for their own gross negligence or willful misconduct as finally determined by a non-appealable judgment of a court of competent jurisdiction. In addition, Agent shall not be liable or responsible for any loss or damage to any Collateral, or for any diminution in the value thereof, by reason of the act or omission of any warehousemen, carrier, forwarding agency, consignee or other bailee if such Person has been selected by Agent in good faith. Agent may (but shall not be obligated to) pay taxes on behalf of any Loan Party, satisfy any Liens against the Collateral (other than Permitted Liens), purchase insurance to protect Agent's and Lenders' interest if Loan Parties fail to maintain the insurance required hereunder and may pay for the maintenance, insurance, protection and preservation of the Collateral and effect compliance with the terms of any Loan Document. Each Loan Party agrees to reimburse Agent, on demand, for all costs and expenses incurred by Agent in connection with such payment or performance and agrees that such amounts shall constitute Obligations and authorizes Agent and each Revolving Lender to make a Revolving Loan to pay all such amounts, even if the result thereof would cause the outstanding principal balance of the Revolving Loans to exceed the Maximum Revolving Loan Balance at such time. Each Loan Party hereby (a) waives any right under the UCC or any other applicable Requirement of Law to receive notice and/or copies of any filed or recorded financing statements, amendments thereto, continuations thereof or termination statements and (b) releases and excuses Agent and each Lender from any obligation under the UCC or any other applicable law to provide notice or a copy of any such filed or recorded documents. Neither Agent nor any Lender shall be under any obligation to marshal any property in favor of any Loan Party or any other Person or against or in payment of any Obligation.

10.18 **Joint and Several; Waiver of Defense.** The obligations of the Loan Parties under the Loan Documents are joint and several. Each Loan Party waives (a) any suretyship defenses available to it under the UCC or any other applicable Requirement of Law, and (b) any right to require Agent and Lenders to proceed against any other Loan Party or any other Person, proceed against or exhaust any security, or pursue any other remedy. Agent and Lenders may exercise or not exercise any right or remedy they have against any Loan Party, any Collateral or any other security (including the right to foreclose by judicial or non-judicial sale) without affecting any other Loan Party's liability. Notwithstanding any other provision of any Loan Document, each Loan Party irrevocably waives all rights that it may have under any Requirement of Law or in equity (including, without limitation, any Requirement of Law subrogating any Loan Party to the rights of Agent and Lenders under any Loan Document) to seek contribution, indemnification or any other form of reimbursement from any other Loan Party, or any other Person now or hereafter primarily or secondarily liable for any of the Obligations, for any payment made by any Loan Party with respect to the Obligations in connection with any Loan Document or otherwise and all rights that it might have to benefit from, or to participate in, any security for the Obligations as a result of any payment made by any Loan Party with respect to the Obligations in connection with any Loan Document or otherwise. Any

agreement providing for indemnification, reimbursement or any other arrangement prohibited under this Section shall be null and void. If any payment is made to a Loan Party in contravention of this Section, such Loan Party shall hold such payment in trust for Agent and Lenders and such payment shall be promptly delivered to Agent for application to the Obligations, whether matured or unmatured.

11. Defined Terms. The following terms are defined in the Sections or subsections referenced opposite such terms:

"Account Control Agreement"	Section 6.10
"Agent"	Preamble
"Agreement"	Preamble
"Assignment Agreement"	Section 10.1(a)
"Borrower"	Preamble
"Closing Date"	Section 4.1
"Eligible Account"	Section 2.8
"Event of Default"	Section 8.1
"GECC"	Preamble
"Guarantor" and "Guarantors"	Preamble
"Indemnitee"	Section 10.4
"Indemnified Liabilities"	Section 10.4
"Intellectual Property Security Agreements"	Section 3.1
"Intercompany Note"	Definition of "Permitted Indebtedness"
"Lender" and "Lenders"	Preamble
"Loan Party" and "Loan Parties"	Preamble
"Lockbox"	Section 6.10
"Lockbox Account"	Section 6.10
"Lockbox Bank"	Section 6.10
"Maximum Lawful Rate"	Section 2.3(c)
"Maximum Revolving Loan Balance"	Section 2.1(b)
"Non-Funding Lender"	Section 9.10(c)
"Other Lender"	Section 9.10(c)
"Patriot Act"	Section 5.7(c)
"Revolving Loan" and "Revolving Loans"	Section 2.1(b)
"SDN List"	Section 5.7(b)
"Settlement Date"	9.10(a)(ii)
"Sweep Account"	Section 6.10
"Sweep Bank"	Section 6.10
"Term Loan"	Section 2.1(a)
"Termination Date"	Section 9.8(b)

In addition to the terms defined elsewhere in this Agreement, the following terms have the following meanings:

"Access Agreement" means a landlord consent and/or bailee letter, substantially in the forms of Exhibit C-1 and C-2 respectively, in favor of Agent executed by the applicable landlord or bailee and the applicable Loan Party.

"Account" means, as at any date of determination, all "accounts" (as such term is defined in the UCC) of the Loan Parties, including, without limitation, the unpaid portion of the obligation of a customer of a Loan Party in respect of Inventory purchased by and shipped to such customer and/or the rendition of services by a Loan Party, as stated on the respective invoice of a Loan Party, net of any credits, rebates or offsets owed to such customer.

"Account Debtor" means the customer of a Loan Party who is obligated on or under an Account.

"Affiliate" means, with respect to any Person, (a) each Responsible Officer, director, partner or joint-venturer of such Person (and in the case of any Person that is a limited liability company, each manager and member of such Person), and (b) any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person.

"Automatic Payment Authorization Agreement" means an automatic payment authorization agreement, substantially in the form of Exhibit D, executed by Borrower.

"Availability" means, as of any date of determination, the amount by which (a) the Maximum Revolving Loan Balance exceeds (b) the aggregate outstanding principal balance of Revolving Loans.

"Borrowing Base" means, as of any date of determination by Agent, an amount equal to 85% of the value of Eligible Accounts at such time.

"Borrowing Base Certificate" means a certificate of Borrower, on behalf of each Loan Party, in substantially the form of Exhibit F hereto, duly completed from time to time, as provided in the Agreement.

"Business Day" means and includes any day other than Saturdays, Sundays, or other days on which commercial banks in New York, New York are required or authorized to be closed.

"Cash Equivalents" means (a) any readily-marketable securities (i) issued by, or directly, unconditionally and fully guaranteed or insured by the United States federal government or (ii) issued by any agency of the United States federal government the obligations of which are fully backed by the full faith and credit of the United States federal government, (b) any readily-marketable direct obligations issued by any other agency of the United States federal government, any state of the United States or any political subdivision of any such state or any public instrumentality thereof, in each case having a rating of at least "A-1" from S&P or at least "P-1" from Moody's, (c) any commercial paper rated at least "A-1" by S&P or "P-1" by Moody's and issued by any Person organized under the laws of any state of the United States, (d) any Dollar-denominated time deposit, insured certificate of deposit, overnight bank deposit or bankers' acceptance issued or accepted by (i) Agent or (ii) any commercial bank that is (A) organized under the laws of the United States, any state thereof or the District of Columbia, (B) "adequately capitalized" (as defined in the regulations of its primary federal banking regulators) and (C) has Tier 1 capital (as defined in such regulations) in excess of $250,000,000 or (e) shares of any United States money market fund that (i) has substantially all of its assets invested continuously in the types of investments referred to in clause (a), (b), (c) or (d) above with maturities as set forth in the proviso below, (ii) has net assets in excess of $500,000,000 and (iii) has obtained from either S&P or Moody's the highest rating obtainable for money market funds in the United States; provided, however, that the maturities of all obligations specified in any of clauses (a), (b), (c) and (d) above shall not exceed 365 days. For the avoidance of doubt, "Cash Equivalents" does not include (and each Loan Party is prohibited from purchasing or purchasing participations in) any auction rate securities or other corporate or municipal bonds with a long-term nominal maturity for which the interest rate is reset through a Dutch auction.

"Collateral" means all Property and interests in Property and proceeds thereof now owned or hereafter acquired by any Loan Party in or upon which a Lien is granted or purported to be granted in favor of Agent for the benefit of Agent and Lenders pursuant to any Loan Document.

"Collection Account" means the following account of Agent (or such other account as Agent shall identify in writing to Borrower or Lenders, as applicable):

Bank Name: Deutsche Bank
Bank Address: New York, NY
ABA Number: 021 001 033
Account Number: 50271079
Account Name: GECC HH Cash Flow Collections
Ref: Amedica Corporation / HFS3840

"Commitments" means the Term Loan Commitments and the Revolving Loan Commitments.

"Convertible Debt" means Indebtedness under the Senior Secured Subordinated Convertible Promissory Notes issued by Borrower during the period from March 4, 2011 to February 15, 2012, which immediately prior to the Closing Date have an aggregate outstanding principal balance of $29,775,000.

"Days Sales Outstanding" means (a) the gross Accounts of Loan Parties divided by (b) the quotient of the gross sales of Loan Parties for the last three (3) months divided by ninety (90).

"Default" means any event, which with the giving of notice or the passage of time, or both, would constitute an Event of Default.

"Default Rate" means a rate of interest equal to 5.0% per annum above the rate of interest otherwise in effect for the applicable Obligation.

"Disbursement Letter" means a disbursement instruction letter, in form and substance satisfactory to Agent, among each Loan Party, Agent and each Lender.

"Dollars" and "$" each mean lawful money of the United States of America.

"EBITDA" means, with respect to Borrower and its consolidated Subsidiaries for any period, the total of the following, which shall be determined in accordance with GAAP: (a) the consolidated net income (loss) of Borrower and its consolidated Subsidiaries for such period, plus (b) without duplication, to the extent included in the calculation of consolidated net income of Borrower and its consolidated Subsidiaries for such period, the sum of the following amounts of Borrower and its consolidated Subsidiaries for such period, (i) income taxes paid or accrued (excluding any amounts Borrower or any of its consolidated Subsidiaries includes in its sales, general and administrative expenses), (ii) interest expense (net of interest income), paid or accrued, (iii) amortization and depreciation expense, (iv) compensation paid in Stock, and (v) other non-cash charges as approved by Agent in its reasonable discretion. EBITDA shall be measured on an accrued accounting basis.

"ERISA" means the United States Employee Retirement Income Security Act of 1974, as amended.

"E-System" means any electronic system approved by Agent, including any Internet or extranet-based site, whether such electronic system is owned, operated or hosted by Agent, any of its Related Persons or any other Person, providing for access to data protected by passcodes or other security system.

"Exigent Circumstance" means any event or circumstance that, in the reasonable judgment of Agent, imminently threatens the ability of Agent to realize upon all or any material portion or material piece of the Collateral, such as, without limitation, fraudulent removal, concealment, or abscondment thereof, destruction or material waste thereof, or failure of any Loan Party after reasonable demand to maintain or reinstate adequate casualty insurance coverage, or which, in the judgment of Agent, could result in a material diminution in value of the Collateral (including, for the avoidance of doubt and without limitation, circumstances where Agent reasonably believes the Loan Parties' remaining cash and Cash Equivalents are being, or are likely to be, significantly and imminently diminished).

"Existing Indebtedness" means all of the Indebtedness and other obligations owed to Zions First National Bank and MSK Investments, LLC immediately prior to the Closing Date.

"Fee Letter" means that certain letter agreement dated the Closing Date between Borrower and Agent.

"FDA" means the U.S. Food and Drug Administration or any successor thereto or any other comparable Governmental Authority.

"Final Maturity Date" means June 17, 2016.

"GAAP" means generally accepted accounting principles in the United States of America, as in effect from time to time.

"Governmental Authority" means any nation, sovereign or government, any state or other political subdivision thereof, any agency, authority or instrumentality thereof and any entity or authority exercising executive, legislative, taxing, judicial, regulatory or administrative functions of or pertaining to government, including any central bank, stock exchange, regulatory body, arbitrator, public sector entity, supra-national entity and any self-regulatory organization.

"Guaranty Agreement" means a guaranty agreement, in form and substance satisfactory to Agent, made by Guarantors in favor of Agent, for the benefit of Agent and Lenders.

"Indebtedness" means, with respect to any Person, at any date, without duplication, (a) all indebtedness for borrowed money, (b) all obligations evidenced by bonds, debentures, notes or other similar instruments, (c) all obligations to pay the deferred purchase price of Property or services, including earnouts or similar payments (other than trade payables incurred in the ordinary course of business), (d) all capital lease obligations, (e) the principal balance outstanding under any synthetic lease, tax retention operating lease, off-balance sheet loan or similar off-balance sheet financing product, (f) all contingent or non-contingent obligations of such Person to reimburse any bank or other Person in respect of amounts paid under a letter of credit, surety bond or other similar instrument, (g) all equity securities of such Person subject to repurchase or redemption other than at the sole option of such Person, (h) all indebtedness secured by a Lien on any asset of such Person, whether or not such indebtedness is an obligation of such Person, (i) all obligations under any foreign exchange contract, currency swap agreement, interest rate swap, cap or collar agreement or other similar agreement or arrangement designed to alter the risks of that Person arising from fluctuations in currency values or interest rates, in each case whether contingent or matured, and (j) all indebtedness, obligations or liabilities of others guaranteed, endorsed (other than in the ordinary course of business), co-made, discounted with recourse or sale with recourse by such Person or for which such Person is otherwise directly or indirectly liable.

"Indemnified Taxes" means any and all present or future taxes, levies, imposts, deductions, charges or withholdings and all liabilities with respect thereto (other than taxes measured by net income and franchise taxes imposed in lieu of net income taxes, in each case imposed on Agent or any Lender as a result of a present or former connection between Agent or such Lender and the jurisdiction of the Governmental Authority imposing such tax or any political subdivision or taxing authority thereof or therein, except for such connection arising solely from Agent or such Lender having executed, delivered or performed its obligations or received a payment under, or enforced, any Loan Document).

"Initial Loans" means the Term Loan and the Revolving Loans (if any) made on the Closing Date.

"Intellectual Property" means (a) all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work, whether published or unpublished, any patents, patent applications and like protections, including improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same, trademarks, trade names, service marks, mask works, rights of use of any name, domain names, or any other similar rights, any applications therefor, whether registered or not, and (b) the goodwill of the business of any Person connected with and symbolized thereby, know-how, operating manuals, trade secret rights, clinical and non-clinical data, and rights to unpatented inventions.

"Interest Period" means, as applicable, (a) the period commencing on the Closing Date and ending on the day immediately preceding the first Business Day of the next succeeding calendar month, or (b) subsequent to the period described in clause (a), the period commencing on the first Business Day of the calendar month and ending on the day immediately preceding the first Business Day of the next succeeding calendar month.

"Investment" means, with respect to any Person, directly or indirectly, (a) to purchase or acquire any Stock or Stock Equivalents, or any obligations or other securities of, or any interest in, any Person, including the establishment or creation of a Subsidiary, (b) to make or commit to make any acquisition of all or substantially all of the assets of another Person, or of any business, division or other unit operation of any Person or (c) make or purchase any advance, loan, extension of credit or capital contribution to, or any other investment in, any Person.

"Knowledge" means, as to any Person, such Person has knowledge or should have had knowledge after using reasonable diligence.

"Lien" means any mortgage, deed of trust, pledge, hypothecation, assignment, charge, deposit arrangement, encumbrance, easement, lien (statutory or otherwise), security interest or other security arrangement and any other preference, priority or preferential arrangement of any kind or nature whatsoever, including any conditional sale contract or other title retention agreement, the interest of a lessor under a capital lease and any synthetic or other financing lease having substantially the same economic effect as any of the foregoing.

"Liquidity Event" means Borrower's receipt of at least $10,000,000 in gross cash proceeds (which results in at least $9,500,000 in unrestricted net cash proceeds) after the Closing Date and before June 28, 2013 from a new licensing agreement (not prohibited under this Agreement) from an unaffiliated third party, or from the sale and issuance of Borrower's preferred Stock, which Stock issuance shall be on terms and conditions reasonably satisfactory to Agent**.**

"Loan" means the Term Loan, each Revolving Loan, and any other loan made or deemed made by any Lender hereunder.

"Loan Documents" means this Agreement, the Notes (if any), the Warrants, the Intellectual Property Security Agreements, the Account Control Agreements, the Access Agreements, the Perfection Certificate, the Pledge Agreement, the Guaranty (if any), any Subordination Agreement, the Fee Letter, the Disbursement Letter, any Borrowing Base Certificate and all other agreements, instruments, documents and certificates delivered to Agent or any Lender from time to time in connection with any of the foregoing.

"Margin Stock" means "margin stock" within the meaning of Regulations T, U and X of the Board of Governors of the Federal Reserve System.

"Material Adverse Effect" means a material adverse effect on any of (a) the operations, business, assets, properties, or condition (financial or otherwise) of Borrower, individually, or the Loan Parties, taken as a whole, (b) the ability of a Loan Party to perform any of its obligations under any Loan Document to which it is a party, (c) the legality, validity or enforceability of any Loan Document, (d) the rights and remedies of Agent or Lenders under any Loan Document or (e) the validity, perfection or priority of any Lien in favor of Agent, on behalf of itself and Lenders, on any of the Collateral.

"Material Agreement" means (a) any agreement or contract to which a Loan Party is a party and involving the receipt or payment of amounts in the aggregate exceeding $500,000 per year, (b) any agreement or contract to which a Loan Party is a party of which the breach, nonperformance, termination or failure to renew could reasonably be expected to have a Material Adverse Effect, or (c) each agreement relating to any Subordinated Indebtedness.

"Material Indebtedness" means (a) any Subordinated Indebtedness and (b) any other Indebtedness (other than the Obligations) of a Loan Party or any of its Subsidiaries having an aggregate principal amount (including undrawn committed or available amounts and including amounts owing to all creditors under any combined or syndicated credit arrangement) of more than $500,000.

"Monthly Cash Burn Amount" means, with respect to Borrower and its consolidated Subsidiaries, as of any date of determination, an amount equal to (a) the sum of (i) EBITDA of Borrower and its consolidated Subsidiaries for the immediately preceding six month period, plus, to the extent included in EBITDA, (ii) One Time Expenses, less (iii) (A) cash taxes, (B) non-financed capital expenditures, (C) cash interest payments (excluding interest payments on the Convertible Debt and Indebtedness payable to MSK Investments, LLC, each made on or prior to the Closing Date), (D) dividends or distributions paid to the extent permitted to be paid hereunder, and (E) to the extent such payments are not deducted in the calculation of EBITDA, license payments, in each case paid by Borrower or any of its consolidated Subsidiaries during the immediately preceding six month period, and less (iv) the current portion of interest bearing liabilities due and payable in the immediately succeeding six month period, divided by (b) six.

"Note" means a promissory note of Borrower, in form and substance satisfactory to Agent, payable to a Lender in a principal amount equal to the amount of such Lender's Term Loan Commitment, or Revolving Loan Commitment, as applicable.

"OFAC" means U.S. Treasury Department's Office of Foreign Assets Control.

"Obligations" means all Loans and all other debts, obligations and liabilities of any kind whatsoever owing by the Loan Parties to Agent and Lenders under the Loan Documents (other than the Warrants), whether for principal, interest, fees, expenses, prepayment premiums, indemnities, reimbursements or other sums, and whether or not such amounts accrue after the filing of any petition in bankruptcy or after the commencement of any insolvency, reorganization or similar proceeding, and whether or not allowed in such case or proceeding, whether direct or indirect (including those acquired by assignment), absolute or contingent, due or to become due, now existing or hereafter arising and howsoever acquired, and whether or not evidenced by any instrument or for the payment of any money.

"One Time Expenses" means (i) transaction costs and expenses incurred and paid by the Loan Parties related to the Loan, including the fees and expenses of Zions First National Bank, the Agent, Creation Capital, LLC, Mintz, Levin Cohn, Ferris, Glovsky and Popeo, P.C. and Patton Boggs, LLP, which shall not exceed $544,020 in the aggregate and (ii) costs, expenses and settlements related to litigation of the Loan Parties for periods prior to the Closing Date in an amount not to exceed $800,071.

"Perfection Certificate" means a perfection certificate in the form provided by Agent, completed and duly executed by each Loan Party.

"Permitted Contest" means the contesting in good faith by appropriate proceedings diligently conducted and with respect to which adequate reserves or other appropriate provisions are maintained on the books of the applicable Loan Party in accordance with GAAP and which do not involve, in the judgment of Agent, any risk of the sale, forfeiture or loss of any of the Collateral.

"Permitted Discretion" means a determination made in good faith and in the exercise of reasonable (from the perspective of a secured asset-based lender) business judgment.

"Permitted Dispositions" means (a) sales of inventory in the ordinary course of business, (b) sales of obsolete or worn out equipment or tangible assets that are no longer used or useful in the business of a Loan Party for cash and fair value so long as no Default or Event of Default has occurred and is continuing at the time of such sale or would result after giving effect thereto, (c) licenses of the Intellectual Property of a Loan Party in the ordinary course of business of the applicable Loan Party, provided that (i) any such license is non-exclusive (but may be exclusive in respects other than territory and may be exclusive as to territory only as to discreet geographical areas outside of the United States, provided further that in the case of any such permitted exclusive license, such license shall be approved by the Board of Directors of the applicable Loan Party) and does not result in a legal transfer of title of the

licensed Intellectual Property, (ii) no Default or Event of Default has occurred and is continuing at the time of such license or would result after giving effect thereto, and (iii) the terms of such license do not restrict the applicable Loan Party's ability to grant a Lien on, assign or otherwise Transfer such license or any Intellectual Property; provided further, that in the case of a license that does not comply with clause (c)(i) above, but otherwise is in compliance with the other terms of this Agreement, Agent agrees that its decision regarding consent or non-consent to such license will not be unreasonably withheld or delayed after such Loan Party delivers written notice to Agent and Lenders summarizing the proposed licensing transaction, provides a copy of the term sheet and when available the licensing documents and provides all others documents and instruments reasonably requested by Agent or any Lender, and (d) transfers of Intellectual Property listed on Schedule 11.1 which is not material to any Loan Party's business.

"Permitted Indebtedness" means (a) the Obligations, (b) Indebtedness existing on the Closing Date and set forth on Schedule 7.2, (c) Indebtedness consisting of capitalized lease obligations and purchase money Indebtedness, in each case incurred by any Loan Party or any of its Subsidiaries to finance the acquisition, repair, improvement or construction of fixed or capital assets of such Person, provided that (i) the aggregate outstanding principal amount of all such Indebtedness does not exceed $300,000 at any time and (ii) the principal amount of such Indebtedness does not exceed the lower of the cost or fair market value (plus taxes, shipping and installation expenses) of the property so acquired or built or of such repairs or improvements financed with such Indebtedness (each measured at the time of such acquisition, repair, improvement or construction is made), (d) Indebtedness owing by any Loan Party to another Loan Party, provided that (i) each Loan Party shall have executed and delivered to each other Loan Party a demand note (each, an "Intercompany Note") to evidence such intercompany loans or advances owing at any time by each Loan Party to the other Loan Parties, which Intercompany Note shall be in form and substance reasonably satisfactory to Agent and shall be pledged and delivered to Agent pursuant to a Pledge Agreement as additional Collateral for the Obligations, (ii) any and all Indebtedness of any Loan Party to another Loan Party shall be subordinated to the Obligations pursuant to the subordination terms set forth in each Intercompany Note, and (iii) no Default or Event of Default shall result after giving effect to any such Indebtedness, (e) Subordinated Indebtedness, (f) guaranties by one or more Loan Parties of the Indebtedness of another Loan Party, so long as such Indebtedness is otherwise permitted pursuant to Section 7.2, (g) reimbursement obligations in connection with letters of credit in an amount not to exceed $100,000, and (h) obligations owing to trade creditors incurred in the ordinary course of business and past due by more than 90 days in an amount not to exceed $50,000 in the aggregate.

"Permitted Investments" means (a) Investments existing on the Closing Date and set forth on Schedule 7.5, (b) subject to Section 6.10, Investments in cash and Cash Equivalents, (c) endorsements for collection or deposit in the ordinary course of business consistent with past practice, (d) extensions of trade credit (other than to Affiliates of a Loan Party) in the ordinary course of business, (e) Investments received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of business, (f) loans and advances to employees of any Loan Party to finance travel, entertainment and relocation expenses and other business purposes in the ordinary course of business in an aggregate outstanding principal amount not to exceed $150,000 at any time, (g) Investments consisting of non-cash loans made by Borrower to officers, directors and employees of a Loan Party which are used by such Persons to purchase simultaneously the Stock of Borrower, (h) advances by a Loan Party to another Loan Party in accordance with the terms and conditions described in clause (d) of the definition of "Permitted Indebtedness", (i) joint ventures or strategic alliances in the ordinary course of business consisting of the non-exclusive licensing of technology, the development of technology or the providing of technical support, but in no event consisting of Investments of cash, Cash Equivalents or tangible assets, and (j) non-recourse equity capital contributions made by Borrower to any of its Subsidiaries that constitutes a Loan Party.

"Permitted Liens" means each of the following: (a) Liens created pursuant to any Loan Document, (b) Liens existing on the Closing Date and set forth on Schedule 7.1, (c) Liens (i) with respect to the payment of taxes, assessments or other governmental charges or (ii) of suppliers, carriers, materialmen, warehousemen, workmen or mechanics and other similar Liens, in each case imposed by law and arising in the ordinary course of business, and securing amounts that are not yet due or that are subject to a Permitted Contest, (d) Liens securing Indebtedness permitted under clause (c) of the definition of "Permitted Indebtedness", provided that (i) such Liens exist prior to the acquisition of, or attach substantially simultaneous with, or within 20 days after, the acquisition, repair, improvement or construction of, such property financed by such Indebtedness and (ii) such Liens do not extend to any Property of a Loan Party other than the Property (and proceeds thereof) acquired or built, or the improvements or repairs, financed by such Indebtedness, (e) Liens of a collection bank on items in the course of collection arising under Section 4-208 of the UCC, (f) pledges or cash deposits made in the ordinary course of business (i) in connection with workers' compensation, unemployment insurance or other types of social security benefits (other

than any Lien imposed by ERISA), (ii) to secure the performance of bids, tenders, leases (other than capital leases), sales or other trade contracts (other than for the repayment of borrowed money) or (iii) made in lieu of, or to secure the performance of, surety, customs, reclamation or performance bonds (in each case not related to judgments or litigation), (g) judgment liens (other than for the payment of taxes, assessments or other governmental charges) securing judgments and other proceedings not constituting an Event of Default under Section 8.1(f) and pledges or cash deposits made in lieu of, or to secure the performance of, judgment or appeal bonds in respect of such judgments and proceedings, (h) Liens arising by reason of zoning restrictions, easements, licenses, reservations, restrictions, covenants, rights-of-way, encroachments, minor defects or irregularities in title (including leasehold title) and other similar encumbrances on the use of real property that do not materially (i) impair the value or marketability of such real property or (ii) interfere with the ordinary conduct of the business conducted and proposed to be conducted at such real property, and (i) licenses described in clause (c) of the definition of "Permitted Disposition."

"Permitted Related Transactions" means those transactions contemplated by that certain letter agreement by and between the Borrower and Creation Capital Advisors LLC dated June 6, 2012 as amended by that certain First Amendment to Financial Advisor Engagement Agreement dated December 12, 2012.

"Person" means any individual, partnership, corporation (including a business trust and a public benefit corporation), joint stock company, estate, association, firm, enterprise, trust, limited liability company, unincorporated association, joint venture and any other entity or Governmental Authority.

"Pledge Agreement" means a pledge agreement in form and substance satisfactory to Agent executed by each Loan Party and Agent.

"Property" means any interest in any kind of property or asset, whether real, personal or mixed, and whether tangible or intangible.

"Pro Rata Share" means:

(a) with respect to the Warrants in any respect, or with respect to a Lender's obligation to make the Term Loan and right to receive payments of interest, fees and principal with respect thereto, the percentage obtained by dividing (a) the aggregate outstanding principal amount of the Term Loan owing to such Lender at such time by (b) the aggregate outstanding principal amount of the Term Loan owing to all Lenders at such time;

(b) with respect to a Lender's obligation to make Revolving Loans and right to receive payments of interest, fees and principal with respect thereto at any time, the percentage obtained by dividing (a) the Revolving Loan Commitment of such Lender then in effect (or, if such Revolving Loan Commitment is terminated at such time, the aggregate outstanding principal amount of the Revolving Loans at such time owing to such Lender) by (b) the Revolving Loan Commitments of all Lenders at such time (or, if the Revolving Loan Commitments of all such Lenders are terminated at such time, the aggregate outstanding principal amount of the Revolving Loans owing to all Lenders at such time); and

(c) with respect to all other matters at any time, the percentage obtained by dividing (i) such Lender's Commitments at such time (or if any Commitment of such Lender is terminated at such time, the aggregate outstanding principal amount of the applicable Loan at such time owing to such Lender), by (ii) the Commitments of all Lenders at such time (or, if any Commitments of all such Lenders are terminated at such time, the aggregate outstanding principal amount of the applicable Loan owing to all Lenders at such time).

"Public Health Laws" means all Requirements of Law relating to the procurement, development, clinical and non-clinical evaluation, product approval or clearance, manufacture, production, analysis, distribution, dispensing, importation, exportation, use, handling, quality, sale, labeling, promotion, or postmarket requirements of any drug, medical device, food, dietary supplement, or other product (including, without limitation, any ingredient or component of the foregoing products) subject to regulation under the Federal Food, Drug, and Cosmetic Act (21 U.S.C. et seq.) and similar state laws, controlled substances laws, pharmacy laws, or consumer product safety laws.

"Qualified Assignee" means (a) any Lender (other than a Non-Funding Lender), (b) any Affiliate of any Lender (other than a Non-Funding Lender), (c) any commercial bank, savings and loan association or savings bank or any other entity which is an "accredited investor" (as defined in Regulation D under the Securities Act of 1933, as amended) which extends credit or buys loans as one of its businesses, including insurance companies, mutual funds, lease financing companies and commercial finance companies, in each case of this clause (c), which either (i) has a rating of BBB or higher from Standard & Poor's Rating Group and a rating of Baa2 or higher from Moody's Investor Service, Inc. at the date that it becomes a Lender, or (ii) together with its Affiliated entities, holds loan

assets in excess of $250,000,000 or (d) any other Person (other than a natural person) approved by Agent, provided however, that notwithstanding the foregoing, unless approved by Agent, "Qualified Assignee" shall not include (A) any Person who is not capable of lending to Borrower without the imposition of any withholding or similar taxes, (B) any Loan Party or any Affiliate of a Loan Party or any Person or Affiliate of such Person that holds any subordinated debt or Stock or Stock Equivalents issued by any Loan Party or its Affiliates (other than any Person that is a Lender on the Closing Date or any Affiliate thereof) or (C) any Person acting in the capacity of a vulture fund or distressed debt purchaser.

"Reference Rate" means, for each day during an Interest Period, the higher of (a) one and one-half of one percent (1.50%) per annum and (b) a rate of interest determined by Agent equal to:

(a) the offered rate for deposits in Dollars for a term of three (3) calendar months that appears on Reuters Screen LIBOR01 Page as of 11:00 a.m. (London time), on the second full Business Day on which banks in the City of London, England are generally open for interbank or foreign exchange transactions (such Business Day a "LIBOR Business Day") immediately prior to the first day of such Interest Period; divided by

(b) a number equal to 1.0 minus the aggregate (but without duplication) of the rates (expressed as a decimal fraction) of reserve requirements in effect on the day that is two (2) LIBOR Business Days prior to the beginning of such Interest Period (including basic, supplemental, marginal and emergency reserves under any regulations of the Federal Reserve Board or other applicable Governmental Authority having jurisdiction with respect thereto, as now and from time to time in effect) for Eurocurrency funding (currently referred to as "Eurocurrency Liabilities" in Regulation D of the Federal Reserve Board) that are required to be maintained by a member bank of the Federal Reserve System.

If the rate described in clause (a) above shall cease to be available from Reuters or otherwise, such rate shall be determined from such financial reporting service or other information as Agent shall reasonably select.

"Registrations" means registrations, authorizations, approvals, licenses, permits, clearances, certificates, and exemptions issued or allowed by the FDA (including, without limitation, new drug applications, abbreviated new drug applications, biologics license applications, investigational new drug applications, over-the-counter drug monograph, device pre-market approval applications, device pre-market notifications, investigational device exemptions, product recertifications, manufacturing approvals and authorizations, CE Marks, pricing and reimbursement approvals, labeling approvals or their foreign equivalent, controlled substance registrations, and wholesale distributor permits).

"Regulatory Action" means an administrative or regulatory action, proceeding, investigation or inspection, FDA Form 483 inspectional observation, warning letter, untitled letter, notice of violation letter, recall, alert, seizure, Section 305 notice or similar communication, or consent decree, issued by the FDA.

"Related Persons" means, with respect to any Person, each Affiliate of such Person and each director, officer, employee, agent, trustee, representative, attorney, accountant and each insurance, environmental, legal, financial and other advisor and other consultants and agents of or to such Person or any of its Affiliates.

"Requirement of Law" means, with respect to any Person, any law (statutory or common), ordinance, treaty, rule, regulation, order, policy, judgment, writ, injunction, decree, or other legal requirement or determination of an arbitrator or of a Governmental Authority, in each case applicable to or binding upon such Person or any of its Property or to which such Person or any of its Property is subject.

"Requisite Lenders" means Lenders whose Pro Rata Shares aggregate more than 60%; provided, however, that so long as a Lender on the Closing Date does not assign any portion of its Commitments or Loans (other than an assignment to any Affiliate of such Lender or another Lender existing on the Closing Date), the "Requisite Lenders" shall include such Lender; provided, further, that when more than one Lender exists, "Requisite Lenders" shall include at least two (2) Lenders.

"Reserves" means, reserves established by Agent in its Permitted Discretion from time to time pursuant to Section 2.1(b), including, without limitation, with respect to known or anticipated liabilities, offsets, or liquidity needs of Loan Parties. Without limiting the generality of the foregoing, Reserves established by Agent in its Permitted Discretion to ensure the payment of accrued interest, fees, expenses and other liabilities (including without limitation rent reserves with respect to any leased locations) shall be deemed to be an exercise of Agent's Permitted Discretion. Reserves may be established against the Borrowing Base and the aggregate Revolving Loan Commitments then in effect as determined to be appropriate by Agent in the exercise of its Permitted Discretion.

"Responsible Officer" shall mean, each to the extent such exists, the chief executive officer, president, chief financial officer, chief operating officer, chief technology officer, vice president of finance, general counsel, chief scientific officer, vice president of regulatory affairs and compliance, and any other officer with substantially the same responsibility as any of the above.

"Revolving Lender" means each Lender with a Revolving Loan Commitment (or if the Revolving Loan Commitments have terminated, who hold Revolving Loans).

"Revolving Loan Commitment" means, with respect to each Lender, the amount set forth opposite such Lender's name on Schedule A hereto under the caption "Revolving Loan Commitment", as amended from time to time to reflect any permitted assignments and as such amount may be reduced or terminated pursuant to this Agreement. "Revolving Loan Commitments" means the Revolving Loan Commitments of all Lenders with a Revolving Loan Commitment.

"Revolving Loan Commitment Termination Date" means the earlier to occur of: (a) June 17, 2016; and (b) the date on which the Revolving Loan Commitments shall terminate for any reason in accordance with the provisions of this Agreement.

"Scheduled Payment Date" means the first day of each calendar month.

"SEC" means the Securities and Exchange Commission.

"Solvent" means, with respect to any Person as of any date of determination, that, as of such date, (a) the value of the assets of such Person (both at fair value and present fair saleable value) is greater than the total amount of liabilities (including contingent and unliquidated liabilities) of such Person, (b) such Person is able to pay all liabilities of such Person as such liabilities mature and (c) such Person does not have unreasonably small capital. In computing the amount of contingent or unliquidated liabilities at any time, such liabilities shall be computed at the amount that, in light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability.

"Stock" means all shares of capital stock (whether denominated as common stock or preferred stock), equity interests, beneficial, partnership or membership interests, joint venture interests, participations or other ownership or profit interests in or equivalents (regardless of how designated) of or in a Person (other than an individual), whether voting or non-voting.

"Stock Equivalents" means all securities convertible into or exchangeable for Stock or any other Stock Equivalent and all warrants, options or other rights to purchase, subscribe for or otherwise acquire any Stock or any other Stock Equivalent, whether or not presently convertible, exchangeable or exercisable.

"Subordinated Indebtedness" means any unsecured Indebtedness owing by any Loan Party to any Person that is not a holder of any Stock or Stock Equivalents of any Loan Party on the date such Indebtedness is incurred, which Indebtedness is subordinated to the Obligations pursuant to a Subordination Agreement.

"Subordination Agreement" means, with respect to any Subordinated Indebtedness, a subordination agreement in form and substance satisfactory to Agent executed by Agent, the Loan Parties and each holder of such Subordinated Indebtedness.

"Subsidiary" means, with respect to any Person, any entity the management of which is, directly or indirectly controlled by, or of which an aggregate of more than 50% of the outstanding voting Stock is, at the time, owned or controlled, directly or indirectly by, such Person or one or more Subsidiaries of such Person.

"Term Loan Commitment" means, with respect to each Lender, the amount set forth opposite such Lender's name on Schedule A hereto under the caption "Term Loan Commitment", as amended from time to time to reflect any permitted assignments and as such amount may be reduced or terminated pursuant to this Agreement. "Term Loan Commitments" means the Term Loan Commitments of all Lenders with a Term Loan Commitment.

"Term Loan Lender" means each Lender with a Term Loan Commitment, or if the Term Loan Commitment is no longer in effect, each Lender owning a Term Loan.

"Transfer" means, with respect to any Property, to sell, convey, transfer, assign, license, rent, lease, sublease, mortgage, transfer or otherwise dispose of any interest therein or to permit any Person to acquire any such interest.

"UCC" means the Uniform Commercial Code as from time to time in effect in the State of New York; provided, however, that, in the event that, by reason of mandatory provisions of any applicable Requirement of Law, any of

the attachment, perfection or priority of Agent's or any other Lender's security interest in any Collateral is governed by the Uniform Commercial Code of a jurisdiction other than the State of New York, "UCC" shall mean the Uniform Commercial Code as in effect in such other jurisdiction for purposes of the provisions hereof relating to such attachment, perfection or priority and for purposes of the definitions related to or otherwise used in such provisions.

"Warrants" means the stock purchase warrants issued to each Term Loan Lender (or its Affiliate or designee) substantially in the form of the warrant attached as Exhibit E.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their duly authorized officers as of the day and year first written above.

BORROWER:

AMEDICA CORPORATION

By: /s/ Eric Olson
Name: Eric Olson
Title: CEO

GUARANTOR:

US SPINE, INC.

By: /s/ Eric Olson
Name: Eric Olson
Title: CEO

Address For Notices For All Loan Parties:

c/o Amedica Corporation
1885 West 2100 South
Salt Lake City, UT 84119
Attention: Gordon G. Esplin, CPA
Phone: (801) 839-3516
Facsimile: (801) 683-2805

With a copy to:

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02110
Attn: Anthony Hubbard, Esq.
Fax: (617) 542-2241
Email: ahubbard@mintz.com

AGENT AND LENDER:

GENERAL ELECTRIC CAPITAL CORPORATION

By: /s/ Peter Gibson
Name: Peter Gibson
Title: Duly Authorized Signatory

Address For Notices:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: Senior Vice President of Risk – Life Science Finance
Phone: (301) 961-1640
Facsimile: (301) 664-9855

Except in the case of notices under Section 6.3, with a copy to:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: General Counsel
Phone: (301) 961-1640
Facsimile: (301) 664-9866

LENDER:

ZIONS FIRST NATIONAL BANK

By: /s/ Thomas C. Etzel
Name: Thomas C. Etzel
Title: Senior Vice President

Address For Notices:

One South Main Street, Ste. 200
Salt Lake City, UT 84133
Attention: Thomas Etzel
Phone: (801) 844-7122
Facsimile: (801) 594-8045

SCHEDULE A
COMMITMENTS

Name of Lender	Term Loan Commitment	Pro Rata Share of Term Loan Commitments	Revolving Loan Commitments	Pro Rata Share of Revolving Loan Commitment	Total Commitments	Pro Rata Share of Commitments
General Electric Capital Corporation	$10,465,200	58.14%	$ 2,034,800	58.1371%	$12,500,000	58.1395%
Zions First National Bank	$ 7,534,800	41.86%	$ 1,465,200	41.8629%	$ 9,000,000	41.8605%
TOTAL	$18,000,000	100%	$ 3,500,000	100%	$21,500,000	100%

Exhibit 10.2

FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT

THIS FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT (this "Amendment"), dated as of June 28, 2013, is entered into by and among **AMEDICA CORPORATION,** a Delaware corporation ("Borrower"), **US SPINE, INC.**, a Delaware corporation ("Guarantor"), and **GENERAL ELECTRIC CAPITAL CORPORATION**, a Delaware corporation ("GECC"), in its capacity as administrative and collateral agent (together with its successors and assigns in such capacity, the "Agent") for the Lenders (as defined below).

WITNESSETH:

WHEREAS, Borrower, Guarantor, Agent, and the lenders signatory thereto from time to time (each a "Lender" and, collectively, the "Lenders"), are parties to that certain Loan. and Security Agreement, dated as of December 17, 2012 (as may be amended, restated, supplemented, replaced, and otherwise modified from time to time, the "Loan Agreement"; capitalized terms used herein have the meanings given to them in the Loan Agreement except as otherwise expressly defined herein), pursuant to which Lenders and Agent have agreed to provide to Borrower certain loans in accordance with the terms and conditions thereof; and

WHEREAS, Borrower, Lenders, and Agent desire to amend, and provide a limited waiver and consent for, certain provisions of the Loan Agreement as provided herein;

NOW, THEREFORE, in consideration of the premises, the covenants and agreements contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Borrower, Lenders and Agent hereby agree as follows:

1. **AMENDMENTS TO LOAN AGREEMENT**. Subject to the terms and conditions of this Amendment, including, without limitation, Section 4 of this Amendment, the Loan. Agreement is hereby amended as follows:

(a) Section 2.4 (b)(i) is hereby amended by amending and restating subsection (b)(i) thereof to read as follows:

"(i) Term Loan. For the Term Loan, Borrower shall pay principal to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, in thirty-five (35) (the "Number of Payments") equal consecutive payments of $514,286 (the "Monthly Amortization Amount") on each Scheduled Payment Date, commencing on August 1, 2013 (the "Initial Principal Payment Date") and one final payment in an amount equal to the entire remaining principal balance of the Term Loan on the Final Maturity Date; provided, however, if a Liquidity Event has occurred and Borrower delivers a written request to Agent requesting an extension. of the Initial Principal Payment Date, each on or before July 24, 2013, then, provided no Default or Event of Default shall have occurred and be continuing on the Initial Principal Payment Date, the "Number of Payments" shall be reduced to thirty (30), the "Monthly Amortization Amount" shall be increased to $600,000 and, the "Initial Principal Payment Date" shall be extended to January 1, 2014.

(b) Section 6.3 is hereby amended by amending and restating subsection (a) thereof to read as follows:

"(a) Borrower shall deliver to Agent and Lenders (i) as soon as available and in any event within 30 days after the end of each fiscal month, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal month and that portion of the fiscal year ending as of the close of such fiscal month, in a form acceptable to Agent and certified by Borrower's president, chief executive officer or chief financial officer, (ii) as soon as available and in any event within 45 days after the end of each fiscal quarter, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal quarter and that portion of the fiscal year ending as of the close or such fiscal quarter, in a form acceptable to Agent and certified by Borrower's president, chief executive officer or chief financial officer and (iii) as soon as available and in any event within one hundred and eighty (180) days (two hundred and ten (210) days, solely for the year ending December 31, 2012) after the end of each fiscal year, audited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal year, together with a report of an independent certified public accounting firm reasonably acceptable to Agent, which report shall contain an unqualified opinion (other than a going concern statement based solely on the amount of cash and Cash Equivalents held by Borrower and its Subsidiaries) stating that such audited financial statements fairly present in all material respects the financial position of Borrower and its Subsidiaries for the periods indicated therein in conformity with GAAP applied on a basis consistent with prior years without qualification as to the scope of the audit or as to going concern (other than a going concern statement based solely on the amount of cash and Cash Equivalents held by Borrower and its Subsidiaries) and without any similar qualification. All such financial statements are to be prepared using GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year end audit adjustments)."

(c) Section 6.1.2 is hereby amended and restated to read as follows:

"6.12 Liquidity Event. Borrower shall have received the Liquidity Event proceeds on or before July 31, 2013."

(d) The following definitions in Section 11 are hereby amended and restated to read as follows:

"Liquidity Event" means Borrower's receipt of at least $10,000,000 in gross cash proceeds (which results in at least $9,500,000

in unrestricted net cash proceeds) after the Closing Date and on or before July 31, 2013 from a new licensing agreement (not prohibited under this Agreement) from an unaffiliated third party, or from the sale and issuance of Borrower's preferred Stock, which Stock issuance shall be on terms and conditions reasonably satisfactory to Agent.

"Monthly Cash Burn Amount" means, with respect to Borrower and its consolidated Subsidiaries, as of any date of determination, an amount equal to (a) the sum of (i) EBITDA of Borrower and its consolidated Subsidiaries for the immediately preceding six month period, plus, to the extent included in EBITDA, (ii) One Time Expenses, less (iii) (A) cash taxes, (B) non-financed capital expenditures, (C) cash interest payments (excluding interest payments on the Convertible Debt and Indebtedness payable to MSK Investments, LLC, each made on or prior to the Closing Date), (D) dividends or distributions paid to the extent permitted to be paid hereunder, and (E) to the extent such payments are not deducted in the calculation of EBITDA, license payments, in each case paid by Borrower or any of its consolidated Subsidiaries during the immediately preceding six month period, and less (iv) the current portion of interest bearing liabilities due and payable in the immediately succeeding six month period (excluding any principal payable prior to January 2014 unless the Liquidity Event has not occurred on or before July 31, 2013), divided by (b) six.

2. **WAIVER.** Borrower is in default under the Loan Agreement for the following reasons:

(i) Borrower's failure to timely deliver its financial statements for the month ending April 30, 2013 when required by Section 6.3(a) of the Loan Agreement, (ii) Borrower opening Deposit Account number 204667000, titled "Amedica Corp Subscription Escrow" with US Bank (the "Escrow Account"), without entering into an Account Control Agreement related thereto as required by Section 6.10 of the Loan Agreement and (iii) Borrower failing to comply with Section 7.10(b) of the Loan Agreement prior to the date hereof (collectively, the "First Amendment Defaults"). Subject to the terms and conditions of this Amendment, including, without limitation, Section 4 of this Amendment, Agent and the Lenders hereby waive the First Amendment Defaults.

3. **CONSENT**. Agent and Lenders hereby consent to the existence of the Escrow Account, and agree that any amount in the Escrow Account resulting from the issuance of Stock of Borrower after the date hereof ("Stock Proceeds") shall not be considered in the computation of the Loan Parties' compliance with Section 6.10(d) of the Loan Agreement. Loan Parties hereby agree that the Escrow Account will be closed within the earlier of (i) ten (10) days after the release to Borrower of the funds in the Escrow Account, and (ii) August 31, 2013. Loan Parties further agree not to maintain any cash in the Escrow Account, other than from the Stock Proceeds. Any violation of this Section 3 shall be an immediate Event of Default under the Loan Agreement.

4. **CONDITIONS TO EFFECTIVENESS.** This Amendment shall become effective upon satisfaction of each of the following conditions:

(a) No Default or Event of Default shall have occurred and be continuing;

(b) Agent shall have received one or more counterparts of this Amendment, duly executed, completed and delivered by Agent, each Lender and each Loan Party; and

(c) Agent shall have received all other documents and instruments as Agent or any Lender may reasonably deem necessary or appropriate to effectuate the intent and purpose of this Amendment.

5. **REAFFIRMATION OF LOAN DOCUMENTS.** By executing and delivering this Amendment, each Loan Party hereby (i) reaffirms, ratifies and confirms its Obligations under the Loan Agreement and the other Loan Documents, (ii) agrees that this Amendment shall be a "Loan Document" under the Loan Agreement and (iii) hereby expressly agrees that the Loan Agreement and each other Loan Document shall remain in full force and effect following any action contemplated in connection herewith.

6. **REAFFIRMATION OF GRANT OF SECURITY INTEREST IN COLLATERAL.** Each Loan Party hereby expressly reaffirms, ratifies and confirms its obligations under the Loan Agreement, including its grant, pledge and hypothecation to the Agent for the benefit of the Agent and each Lender, of the lien on and security interest in, all of its right, title and interest in, all of the Collateral.

7. **NO OTHER CONSENTS OR AMENDMENTS.** Except for the amendments, limited waiver and consents set forth in Sections 1, 2 and 3 of this Amendment, the Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect. Nothing in this Amendment is intended, or shall be construed, to constitute a novation or an accord and satisfaction of any Loan Party's Obligations under or in connection with the Loan Agreement and any other Loan Document or to modify, affect or impair the perfection or continuity of Agent's security interest in, (on behalf of itself and Lenders) security titles to or other liens on any Collateral for the Obligations.

8. **REPRESENTATIONS AND WARRANTIES; LIENS; NO DEFAULT, NO CONFLICT.** Each Loan Party hereby represents, warrants and covenants with and to the Agent and Lenders as follows: (i) all of the representations and warranties set forth in the Loan Documents continue to be true and correct as of the date hereof, except to the extent such representations and warranties by their terms expressly relate only to a prior date (in which case such representations and warranties shall be true and correct as of such prior date); (ii) there are no Defaults or Events of Default that have not been waived or cured; (iii) Agent has and shall continue to have valid, enforceable and perfected first-priority liens, subject only to Permitted Liens, on and security interests in the Collateral and all other collateral heretofore granted by each Loan Party to Agent, for the benefit of the Agent and each Lender, pursuant to the Loan Documents or otherwise granted to or held by Agent, for the benefit of the Agent and each Lender, (iv) the agreements and obligations of Loan Parties contained in the Loan Documents and in this Amendment constitute the legal, valid and binding obligations of the Loan Parties party thereto, enforceable against each such Loan Party in accordance with their respective terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws of general application affecting the enforcement of creditors' rights or by the application of general principles of equity, and (v) the execution, delivery and performance of this Amendment by each Loan Party will not violate any law, rule, regulation or order or contractual obligation or organizational document of such Loan Party and will not result in, or require, the creation or imposition of any lien, claim or encumbrance of any kind on any of its properties or revenues.

9. **ADVICE OF COUNSEL.** Each of the parties represents to each other party hereto that it has discussed this Amendment with its counsel.

10. **SEVERABILITY OF PROVISIONS**. In case any provision of or obligation under this Amendment shall be invalid, illegal or unenforceable in any applicable jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

11. **FURTHER ASSURANCES**. Each Loan Party agrees that at any time and from time to time, at the expense of each Loan Party, it will promptly execute and deliver all further instruments and documents, and take all further action, that may be necessary or that Agent or Lenders may reasonably request, in connection with this Amendment, or to enable them to exercise and enforce their rights and remedies under this Amendment, the Loan Agreement and the other Loan Documents.

12. **COSTS AND EXPENSES**. Each Loan Party shall be responsible for the payment of all fees, costs and expenses incurred by Agent and Lenders in connection with the preparation and negotiation of this Amendment, including, without limitation, any and all fees and expenses of Agent's counsel.

13. **REFERENCE TO THE EFFECT ON THE LOAN AGREEMENT.**

(a) Upon the effectiveness of this Amendment, each reference in the Loan Agreement to "this Agreement," "hereunder," "hereof," "herein" or words of similar import shall mean and be a reference to the Loan Agreement as modified by this Amendment.

(b) The execution, delivery and effectiveness of this Amendment shall not, except as expressly provided in this Amendment, operate as a waiver of any right, power or remedy of Agent or any Lender, nor constitute a waiver of any provision of the Loan Agreement or any other documents, instruments and agreements executed or delivered, in connection with the Loan Agreement.

14. **ACKNOWLEDGMENT OF EACH LOAN PARTY.** Each Loan Party hereby acknowledges and agrees that: (i) it has no defense, offset or counterclaim with respect to the payment of any sum owed to Agent or Lenders, or with respect to the performance or observance of any warranty or covenant contained in the Loan Documents; and (ii) Agent and Lenders have performed all obligations and duties owed to each Loan Party through the date hereof.

15. **GOVERNING LAW.** THIS AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL, LAWS OF THE STATE OF NEW YORK APPLICABLE TO CONTRACTS MADE AND PERFORMED IN SUCH STALE WITHOUT REGARD TO TINE PRINCIPLES THEREOF REGARDING CONFLICTS OF LAWS.

16. **HEADINGS.** Section headings in this Amendment are included for convenience of reference only and shall not constitute a part of this Amendment for any other purpose.

17. **ENTIRE AGREEMENT**. The Loan Agreement and the other Loan Documents as and when amended through this Amendment embody the entire agreement between the parties hereto relating to the subject matter thereof and supersede all prior agreements, representations and understandings, if any, relating to the subject matter thereof.

18. **COUNTERPARTS.** This Amendment may be executed in multiple counterparts, each of which shall be deemed to be an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed signature page of this Amendment by facsimile transmission, portable document format (.pdf), or other electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

[Remainder of page intentionally blank; signature pages follow]

IN WITNESS WHEREOF, the parties hereto have cause this First Amendment to Loan and Security Agreement to be duly executed and delivered as of the day and year specified at the beginning hereof.

BORROWER:

AMEDICA CORPORATION

By: /s/ W. K. Farnsworth
Name: W. Karl Farnsworth
Title: CFO

GUARANTOR:

US SPINE, INC

By: /s/ W. K. Farnsworth
Name: W. Karl Farnsworth
Title: CFO

AGENT AND LENDER:

GENERAL ELECTRIC CAPITAL CORPORATION, as Agent and Lender

By: /s/ Scott B. Towers
Name: Scott B. Towers
Title: Duly Authorized Signatory

LENDER:

ZIONS FIRST NATIONAL BANK

By: /s/ Thomas C. Etzel
Name: Thomas C. Etzel
Title: Senior Vice President

Exhibit 10.3

SECOND AMENDMENT AND WAIVER TO LOAN AND SECURITY AGREEMENT

THIS SECOND AMENDMENT AND WAIVER TO LOAN AND SECURITY AGREEMENT (this "Amendment"), dated as of July 31, 2013, is entered into by and among **AMEDICA CORPORATION**, a Delaware corporation ("Borrower"), **US SPINE, INC.**, a Delaware corporation ("Guarantor"), and **GENERAL ELECTRIC CAPITAL CORPORATION**, a Delaware corporation ("GECC"), in its capacity as administrative and collateral agent (together with its successors and assigns in such capacity, the "Agent") for the Lenders (as defined below).

W I T N E S S E T H:

WHEREAS, Borrower, Guarantor, Agent, and the lenders signatory thereto from time to time (each a "Lender" and, collectively, the "Lenders"), are parties to that certain Loan and Security Agreement, dated as of December 17, 2012 (as has been and may be amended, restated, supplemented, replaced, and otherwise modified from time to time, the "Loan Agreement"; capitalized terms used herein have the meanings given to them in the Loan Agreement except as otherwise expressly defined herein), pursuant to which Lenders and Agent have agreed to provide to Borrower certain loans in accordance with the terms and conditions thereof; and

WHEREAS, Borrower, Lenders, and Agent desire to amend, and provide a consent and limited waiver for, certain provisions of the Loan Agreement as provided herein;

NOW, THEREFORE, in consideration of the premises, the covenants and agreements contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Borrower, Lenders and Agent hereby agree as follows:

1 **AMENDMENTS TO LOAN AGREEMENT**. Subject to the terms and conditions of this Amendment, including, without limitation, Section 5 of this Amendment, the Loan Agreement is hereby amended as follows:

(a) Section 2.4 (b)(i) is hereby amended by amending and restating subsection (b)(i) thereof to read as follows:

"(i) Term Loan. For the Term Loan, Borrower shall pay principal to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, in thirty-five (35) (the "Number of Payments") equal consecutive payments of $514,285 (the "Monthly Amortization Amount") on August 16, 2013 (the "Initial Principal Payment Date") and thereafter on each Scheduled Payment Date, and one final payment in an amount equal to the entire remaining principal balance of the Term Loan on the Final Maturity Date; provided, however, if a Liquidity Event has occurred and Borrower delivers a written request to Agent requesting an extension of the Initial Principal Payment Date, each on or before August 15, 2013, then, provided no Default or Event of Default shall have occurred and be continuing on the Initial Principal Payment Date, the "Number of Payments" shall be reduced to thirty (30), the "Monthly Amortization Amount" shall be increased to $600,000 and, the "Initial Principal Payment Date" shall be extended to January 1, 2014."

(b) Section 6.3 is hereby amended by amending and restating subsection (a) thereof to read as follows:

"(a) Borrower shall deliver to Agent and Lenders (i) as soon as available and in any event within 30 days after the end of each fiscal month, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal month and that portion of the fiscal year ending as of the close of such fiscal month, in a form acceptable to Agent and certified by Borrower's president, chief executive officer or chief financial officer, (ii) as soon as available and in any event within 45 days after the end of each fiscal quarter, unaudited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal quarter and that portion of the fiscal year ending as of the close of such fiscal quarter, in a form acceptable to Agent and certified by Borrower's president, chief executive officer or chief financial officer and (iii) as soon as available and in any event within one hundred and eighty (180) days provided that, solely for the year ending December 31, 2012 such date shall be extended to August 15, 2013) after the end of each fiscal year, audited consolidated (and if available, consolidating) balance sheets, statements of income or operations and cash flow statements of Borrower and its Subsidiaries as of the end of such fiscal year, together with a report of an independent certified public accounting firm reasonably acceptable to Agent, which report shall contain an unqualified opinion (other than a going concern statement with respect to fiscal year 2012) stating that such audited financial statements fairly present in all material respects the financial position of Borrower and its Subsidiaries for the periods indicated therein in conformity with GAAP applied on a basis consistent with prior years without qualification as to the scope of the audit or as to going concern (other than a going concern statement with respect to fiscal year 2012) and without any similar qualification. All such financial statements are to be prepared using GAAP (subject, in the case of unaudited financial statements, to the absence of footnotes and normal year end audit adjustments)."

(c) Section 6.12 is hereby amended and restated to read as follows:

"6.12 Liquidity Event. Borrower shall have received the Liquidity Event proceeds on or before August 15, 2013."

(d) The following definition in Section 11 is hereby amended and restated to read as follows:

"Liquidity Event" means Borrower's receipt of at least $10,000,000 in gross cash proceeds (which results in at least $9,500,000 in unrestricted net cash proceeds) after the Closing Date and on or before August 15, 2013 from a new licensing agreement (not prohibited under this Agreement) from an unaffiliated third party, or from the sale and issuance of Borrower's preferred or common Stock or the cash exercise of warrants for Borrower's preferred Stock, which Stock issuance or exercise shall be on terms and conditions reasonably satisfactory to Agent."

2 **<u>CONSENT</u>**. Agent and Lenders hereby consent to and approve the following non-cash addbacks to EBITDA for the calendar year ending December 31, 2012: (a) Impairment to intangible assets of $15,280,861, as reflected in the "Recoverability and Impairment Analysis" report from Lone Peak Valuation Group to Amedica Corporation dated as of December 31, 2012, and (b) write-down of excess and obsolete inventory of $1,042,909.

3 **<u>WAIVER</u>**. Borrower is in default under the Loan Agreement because of Borrower's failure to comply with <u>Section 7.10(b)</u> of the Loan Agreement (the "<u>Second Amendment Default</u>"). Subject to the terms and conditions of this Amendment, including, without limitation, <u>Section 5</u> of this Amendment, Agent and the Lenders hereby waive the Second Amendment Default for the period from June 30, 2013 until August 15, 2013. Such waiver shall cease to be effective as of August 16, 2013 and thereafter, during which Borrower shall be required to comply with <u>Section 7.10(b)</u> of the Loan Agreement.

4 **<u>AMENDMENT FEE</u>**. On the date hereof, Borrower shall pay to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, an amendment fee in an amount equal to $50,000 ("Second Amendment Fee"), which fee shall be fully earned on the date hereof.

5 **<u>CONDITIONS TO EFFECTIVENESS</u>**. This Amendment shall become effective upon satisfaction of each of the following conditions:

(a) No Default or Event of Default (other than the Second Amendment Default) shall have occurred and be continuing;

(b) Agent shall have received one or more counterparts of this Amendment, duly executed, completed and delivered by Agent, each Lender and each Loan Party

(c) Agent shall have received from Borrower the Second Amendment Fee; and

(d) Agent shall have received all other documents and instruments as Agent or any Lender may reasonably deem necessary or appropriate to effectuate the intent and purpose of this Amendment.

6 **<u>REAFFIRMATION OF LOAN DOCUMENTS</u>**. By executing and delivering this Amendment, each Loan Party hereby (i) reaffirms, ratifies and confirms its Obligations under the Loan Agreement and the other Loan Documents, (ii) agrees that this Amendment shall be a "Loan Document" under the Loan Agreement and (iii) hereby expressly agrees that the Loan Agreement and each other Loan Document shall remain in full force and effect following any action contemplated in connection herewith.

7 **<u>REAFFIRMATION OF GRANT OF SECURITY INTEREST IN COLLATERAL</u>**. Each Loan Party hereby expressly reaffirms, ratifies and confirms its obligations under the Loan Agreement, including its grant, pledge and hypothecation to the Agent for the benefit of the Agent and each Lender, of the lien on and security interest in, all of its right, title and interest in, all of the Collateral.

8 **NO OTHER CONSENTS OR AMENDMENTS**. Except for the amendment, consent and waiver set forth in Sections 1, 2 and 3 of this Amendment, the Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect. Nothing in this Amendment is intended, or shall be construed, to constitute a novation or an accord and satisfaction of any Loan Party's Obligations under or in connection with the Loan Agreement and any other Loan Document or to modify, affect or impair the perfection or continuity of Agent's security interest in, (on behalf of itself and Lenders) security titles to or other liens on any Collateral for the Obligations.

9 **REPRESENTATIONS AND WARRANTIES; LIENS; NO DEFAULT, NO CONFLICT**. Each Loan Party hereby represents, warrants and covenants with and to the Agent and Lenders as follows: (i) all of the representations and warranties set forth in the Loan Documents continue to be true and correct as of the date hereof, except to the extent such representations and warranties by their terms expressly relate only to a prior date (in which case such representations and warranties shall be true and correct as of such prior date); (ii) there are no Defaults or Events of Default that have not been waived or cured; (iii) Agent has and shall continue to have valid, enforceable and perfected first-priority liens, subject only to Permitted Liens, on and security interests in the Collateral and all other collateral heretofore granted by each Loan Party to Agent, for the benefit of the Agent and each Lender, pursuant to the Loan Documents or otherwise granted to or held by Agent, for the benefit of the Agent and each Lender, (iv) the agreements and obligations of Loan Parties contained in the Loan Documents and in this Amendment constitute the legal, valid and binding obligations of the Loan Parties party thereto, enforceable against each such Loan Party in accordance with their respective terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws of general application affecting the enforcement of creditors' rights or by the application of general principles of equity, and (v) the execution, delivery and performance of this Amendment by each Loan Party will not violate any law, rule, regulation or order or contractual obligation or organizational document of such Loan Party and will not result in, or require, the creation or imposition of any lien, claim or encumbrance of any kind on any of its properties or revenues.

10 **ADVICE OF COUNSEL**. Each of the parties represents to each other party hereto that it has discussed this Amendment with its counsel.

11 **SEVERABILITY OF PROVISIONS**. In case any provision of or obligation under this Amendment shall be invalid, illegal or unenforceable in any applicable jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

12 **FURTHER ASSURANCES**. Each Loan Party agrees that at any time and from time to time, at the expense of each Loan Party, it will promptly execute and deliver all further instruments and documents, and take all further action, that may be necessary or that Agent or Lenders may reasonably request, in connection with this Amendment, or to enable them to exercise and enforce their rights and remedies under this Amendment, the Loan Agreement and the other Loan Documents.

13 **COSTS AND EXPENSES**. Each Loan Party shall be responsible for the payment of all fees, costs and expenses incurred by Agent and Lenders in connection with the preparation and negotiation of this Amendment, including, without limitation, any and all fees and expenses of Agent's counsel.

14 **REFERENCE TO THE EFFECT ON THE LOAN AGREEMENT**.

(a) Upon the effectiveness of this Amendment, each reference in the Loan Agreement to "this Agreement," "hereunder," "hereof," "herein" or words of similar import shall mean and be a reference to the Loan Agreement as modified by this Amendment.

(b) The execution, delivery and effectiveness of this Amendment shall not, except as expressly provided in this Amendment, operate as a waiver of any right, power or remedy of Agent or any Lender, nor constitute a waiver of any provision of the Loan Agreement or any other documents, instruments and agreements executed or delivered in connection with the Loan Agreement.

15 **ACKNOWLEDGMENT OF EACH LOAN PARTY**. Each Loan Party hereby acknowledges and agrees that: (i) it has no defense, offset or counterclaim with respect to the payment of any sum owed to Agent or Lenders, or with respect to the performance or observance of any warranty or covenant contained in the Loan Documents; and (ii) Agent and Lenders have performed all obligations and duties owed to each Loan Party through the date hereof.

16 **GOVERNING LAW**. THIS AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK APPLICABLE TO CONTRACTS MADE AND PERFORMED IN SUCH STATE WITHOUT REGARD TO THE PRINCIPLES THEREOF REGARDING CONFLICTS OF LAWS.

17 **HEADINGS**. Section headings in this Amendment are included for convenience of reference only and shall not constitute a part of this Amendment for any other purpose.

18 **ENTIRE AGREEMENT**. The Loan Agreement and the other Loan Documents as and when amended through this Amendment embody the entire agreement between the parties hereto relating to the subject matter thereof and supersede all prior agreements, representations and understandings, if any, relating to the subject matter thereof.

19 **COUNTERPARTS**. This Amendment may be executed in multiple counterparts, each of which shall be deemed to be an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed signature page of this Amendment by facsimile transmission, portable document format (.pdf), or other electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

[*Remainder of page intentionally blank; signature pages follow*.]

IN WITNESS WHEREOF, the parties hereto have caused this Second Amendment and Waiver to Loan and Security Agreement to be duly executed and delivered as of the day and year specified at the beginning hereof.

BORROWER:

AMEDICA CORPORATION

By: /s/ W. K. Farnsworth
Name: W. Karl Farnsworth
Title: CFO

GUARANTOR:

US SPINE, INC.

By: /s/ W. K. Farnsworth
Name: W. Karl Farnsworth
Title: CFO

AGENT AND LENDER:

GENERAL ELECTRIC CAPITAL CORPORATION, as Agent and Lender

By: /s/ Scott R. Towers
Name: Scott R. Towers
Title: Duly Authorized Signatory

LENDER:

ZIONS FIRST NATIONAL BANK

By: /s/ Thomas C. Etzel
Name: Thomas C. Etzel
Title: Senior Vice President

Exhibit 10.4

THIRD AMENDMENT AND WAIVER TO LOAN AND SECURITY AGREEMENT

THIS THIRD AMENDMENT AND WAIVER TO LOAN AND SECURITY AGREEMENT (this "Amendment"), dated as of August 15, 2013, is entered into by and among **AMEDICA CORPORATION**, a Delaware corporation ("Borrower"), **US SPINE, INC.**, a Delaware corporation ("Guarantor"), the Lenders (as defined below) and **GENERAL ELECTRIC CAPITAL CORPORATION**, a Delaware corporation ("GECC"), in its capacity as administrative and collateral agent (together with its successors and assigns in such capacity, the "Agent") for the Lenders (as defined below).

W I T N E S S E T H:

WHEREAS, Borrower, Guarantor, Agent, and the lenders signatory thereto from time to time (each a "Lender" and, collectively, the "Lenders"), are parties to that certain Loan and Security Agreement, dated as of December 17, 2012 (as has been and may be amended, restated, supplemented, replaced, and otherwise modified from time to time, the "Loan Agreement"; capitalized terms used herein have the meanings given to them in the Loan Agreement except as otherwise expressly defined herein), pursuant to which Lenders and Agent have agreed to provide to Borrower certain loans in accordance with the terms and conditions thereof; and

WHEREAS, Borrower, Lenders, and Agent desire to amend, and provide a consent and limited waiver for, certain provisions of the Loan Agreement as provided herein;

NOW, THEREFORE, in consideration of the premises, the covenants and agreements contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Borrower, Lenders and Agent hereby agree as follows:

1 **AMENDMENTS TO LOAN AGREEMENT**. Subject to the terms and conditions of this Amendment, including, without limitation, Section 5 of this Amendment, the Loan Agreement is hereby amended as follows:

(a) Section 2.4 (b)(i) is hereby amended by amending and restating subsection (b)(i) thereof to read as follows:

"(i) Term Loan. For the Term Loan, Borrower shall pay principal to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, in thirty-four (34) (the "Number of Payments") equal consecutive payments of $529,411 (the "Monthly Amortization Amount") on September 1, 2013 (the "Initial Principal Payment Date") and thereafter on each Scheduled Payment Date, and one final payment in an amount equal to the entire remaining principal balance of the Term Loan on the Final Maturity Date; provided, however, if a Liquidity Event has occurred and Borrower delivers a written request to Agent requesting an extension of the Initial Principal Payment Date, each on or before August 30, 2013, then, provided no Default or Event of Default shall have occurred and be continuing on the Initial Principal Payment Date, the "Number of Payments" shall be reduced to thirty (30), the "Monthly Amortization Amount" shall be increased to $600,000 and, the "Initial Principal Payment Date" shall be extended to January 1, 2014."

(b) Section 6.12 is hereby amended and restated to read as follows:

"6.12 Liquidity Event. Borrower shall have received the Liquidity Event proceeds on or before August 30, 2013."

(c) The following definition in Section 11 is hereby amended and restated to read as follows:

"Liquidity Event" means Borrower's receipt of at least $10,000,000 in gross cash proceeds (which results in at least $9,500,000 in unrestricted net cash proceeds) after the Closing Date and on or before August 30, 2013 from a new licensing agreement (not prohibited under this Agreement) from an unaffiliated third party, or from the sale and issuance of Borrower's preferred or common Stock or the cash exercise of warrants for Borrower's preferred Stock, which Stock issuance or exercise shall be on terms and conditions reasonably satisfactory to Agent."

2 **WAIVER**. Borrower is in default under the Loan Agreement because of Borrower's failure to comply with Section 7.10(b) of the Loan Agreement (the "Third Amendment Default"). Subject to the terms and conditions of this Amendment, including, without limitation, Section 5 of this Amendment, Agent and the Lenders hereby waive the Third Amendment Default for the period from June 30, 2013 until August 30, 2013. Such waiver shall cease to be effective as of August 31, 2013 and thereafter, during which Borrower shall be required to comply with Section 7.10(b) of the Loan Agreement.

3 **RESERVE**. On the date hereof, Agent shall establish a Reserve pursuant to Section 2.1(b) of the Loan Agreement, in the amount of $500,000, which shall remain in place until removed by Agent in is Permitted Discretion.

4 **AMENDMENT FEE**. On the date hereof, Borrower shall pay to Agent, for the benefit of Lenders in accordance with their Pro Rata Shares, an amendment fee in an amount equal to $215,000 (provided that such fee shall be $107,500 if Borrower complies with Section 6.12 of the Loan Agreement on or before August 30, 2013) ("Third Amendment Fee"), which fee shall be fully earned on the date hereof, and payable on the earlier of (i) five (5) days after Borrower's receipt of any proceeds from a public offering of its Stock, and (ii) the date upon which the outstanding principal amount of the Term Loan is repaid in full, or if earlier, is required to be paid in full.

5 **CONDITIONS TO EFFECTIVENESS**. This Amendment shall become effective upon satisfaction of each of the following conditions:

(a) No Default or Event of Default (other than the Third Amendment Default) shall have occurred and be continuing;

(b) Agent shall have received one or more counterparts of this Amendment, duly executed, completed and delivered by Agent, each Lender and each Loan Party; and

(c) Agent shall have received all other documents and instruments as Agent or any Lender may reasonably deem necessary or appropriate to effectuate the intent and purpose of this Amendment.

6 **REAFFIRMATION OF LOAN DOCUMENTS**. By executing and delivering this Amendment, each Loan Party hereby (i) reaffirms, ratifies and confirms its Obligations under the Loan Agreement and the other Loan Documents, (ii) agrees that this Amendment shall be a "Loan Document" under the Loan Agreement and (iii) hereby expressly agrees that the Loan Agreement and each other Loan Document shall remain in full force and effect following any action contemplated in connection herewith.

7 **REAFFIRMATION OF GRANT OF SECURITY INTEREST IN COLLATERAL**. Each Loan Party hereby expressly reaffirms, ratifies and confirms its obligations under the Loan Agreement, including its grant, pledge and hypothecation to the Agent for the benefit of the Agent and each Lender, of the lien on and security interest in, all of its right, title and interest in, all of the Collateral.

8 **NO OTHER CONSENTS OR AMENDMENTS**. Except for the amendment, consent and waiver set forth in Sections 1, 2 and 3 of this Amendment, the Loan Agreement and the other Loan Documents shall remain unchanged and in full force and effect. Nothing in this Amendment is intended, or shall be construed, to constitute a novation or an accord and satisfaction of any Loan Party's Obligations under or in connection with the Loan Agreement and any other Loan Document or to modify, affect or impair the perfection or continuity of Agent's security interest in, (on behalf of itself and Lenders) security titles to or other liens on any Collateral for the Obligations.

9 **REPRESENTATIONS AND WARRANTIES; LIENS; NO DEFAULT, NO CONFLICT**. Each Loan Party hereby represents, warrants and covenants with and to the Agent and Lenders as follows: (i) all of the representations and warranties set forth in the Loan Documents continue to be true and correct as of the date hereof, except to the extent such representations and warranties by their terms expressly relate only to a prior date (in which case such representations and warranties shall be true and correct as of such prior date); (ii) there are no Defaults or Events of Default that have not been waived or cured; (iii) Agent has and shall continue to have valid, enforceable and perfected first-priority liens, subject only to Permitted Liens, on and security interests in the Collateral and all other collateral heretofore granted by each Loan Party to Agent, for the benefit of the Agent and each Lender, pursuant to the Loan Documents or otherwise granted to or held by Agent, for the benefit of the Agent and each Lender, (iv) the agreements and obligations of Loan Parties contained in the Loan Documents and in this Amendment constitute the legal, valid and binding obligations of the Loan Parties party thereto, enforceable against each such Loan Party in accordance with their respective terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws of general application affecting the enforcement of creditors' rights or by the application of general principles of equity, and (v) the execution, delivery and performance of this Amendment by each Loan Party will not violate any law, rule, regulation or order or contractual obligation or organizational document of such Loan Party and will not result in, or require, the creation or imposition of any lien, claim or encumbrance of any kind on any of its properties or revenues.

10 **ADVICE OF COUNSEL**. Each of the parties represents to each other party hereto that it has discussed this Amendment with its counsel.

11 **SEVERABILITY OF PROVISIONS**. In case any provision of or obligation under this Amendment shall be invalid, illegal or unenforceable in any applicable jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

12 **FURTHER ASSURANCES**. Each Loan Party agrees that at any time and from time to time, at the expense of each Loan Party, it will promptly execute and deliver all further instruments and documents, and take all further action, that may be necessary or that Agent or Lenders may reasonably request, in connection with this Amendment, or to enable them to exercise and enforce their rights and remedies under this Amendment, the Loan Agreement and the other Loan Documents.

13 **COSTS AND EXPENSES**. Each Loan Party shall be responsible for the payment of all fees, costs and expenses incurred by Agent and Lenders in connection with the preparation and negotiation of this Amendment, including, without limitation, any and all fees and expenses of Agent's and Lenders' counsel.

14 **REFERENCE TO THE EFFECT ON THE LOAN AGREEMENT**.

(a) Upon the effectiveness of this Amendment, each reference in the Loan Agreement to "this Agreement," "hereunder," "hereof," "herein" or words of similar import shall mean and be a reference to the Loan Agreement as modified by this Amendment.

(b) The execution, delivery and effectiveness of this Amendment shall not, except as expressly provided in this Amendment, operate as a waiver of any right, power or remedy of Agent or any Lender, nor constitute a waiver of any provision of the Loan Agreement or any other documents, instruments and agreements executed or delivered in connection with the Loan Agreement.

15 **ACKNOWLEDGMENT OF EACH LOAN PARTY**. Each Loan Party hereby acknowledges and agrees that: (i) it has no defense, offset or counterclaim with respect to the payment of any sum owed to Agent or Lenders, or with respect to the performance or observance of any warranty or covenant contained in the Loan Documents; and (ii) Agent and Lenders have performed all obligations and duties owed to each Loan Party through the date hereof.

16 **GOVERNING LAW**. THIS AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK APPLICABLE TO CONTRACTS MADE AND PERFORMED IN SUCH STATE WITHOUT REGARD TO THE PRINCIPLES THEREOF REGARDING CONFLICTS OF LAWS.

17 **HEADINGS**. Section headings in this Amendment are included for convenience of reference only and shall not constitute a part of this Amendment for any other purpose.

18 **ENTIRE AGREEMENT**. The Loan Agreement and the other Loan Documents as and when amended through this Amendment embody the entire agreement between the parties hereto relating to the subject matter thereof and supersede all prior agreements, representations and understandings, if any, relating to the subject matter thereof.

19 **COUNTERPARTS**. This Amendment may be executed in multiple counterparts, each of which shall be deemed to be an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed signature page of this Amendment by facsimile transmission, portable document format (.pdf), or other electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

[*Remainder of page intentionally blank; signature pages follow*.]

IN WITNESS WHEREOF, the parties hereto have caused this Third Amendment and Waiver to Loan and Security Agreement to be duly executed and delivered as of the day and year specified at the beginning hereof.

BORROWER:

AMEDICA CORPORATION

By: /s/ W. K. Farnsworth
Name: W. Karl Farnsworth
Title: CFO

GUARANTOR:

US SPINE, INC.

By: /s/ W. K. Farnsworth
Name: W. Karl Farnsworth
Title: CFO

AGENT AND LENDER:

GENERAL ELECTRIC CAPITAL CORPORATION, as Agent and Lender

By: /s/ Scott R. Towers
Name: Scott R. Towers
Title: Duly Authorized Signatory

LENDER:

ZIONS FIRST NATIONAL BANK

By: /s/ Thomas C. Etzel
Name: Thomas C. Etzel
Title: Senior Vice President

Exhibit 10.5

PLEDGE AGREEMENT

This PLEDGE AGREEMENT, dated as of December 17, 2012 (together with all amendments, if any, from time to time hereto, this "Pledge Agreement"), by and between AMEDICA CORPORATION, a Delaware corporation ("Borrower" and together with any other Person that joins this Pledge Agreement as a Pledgor in accordance with Section 27, collectively, the "Pledgors" and each a "Pledgor") and GENERAL ELECTRIC CAPITAL CORPORATION, a Delaware corporation, in its capacity as agent (in such capacity and together with any successors, endorsees and assigns, "Agent") for itself and the lenders from time to time party to the Loan Agreement hereinafter defined (collectively, the "Lenders").

W I T N E S S E T H:

WHEREAS, pursuant to that certain Loan and Security Agreement, dated as of the date hereof, by and among Borrower, US Spine, Inc. ("Guarantor"), the other Loan Parties from time to time signatory thereto, Agent and the Lenders from time to time party thereto (including all annexes, exhibits and schedules thereto, as from time to time amended, restated, supplemented or otherwise modified, the "Loan Agreement"), the Lenders have agreed to make Revolving Loans and a Term Loan to Borrower on the terms and conditions set forth in the Loan Agreement;

WHEREAS, in order to induce Agent and the Lenders to enter into the Loan Agreement and other Loan Documents and to induce the Lenders to make the Revolving Loan and Term Loan (collectively, "Loans") provided for in the Loan Agreement, each Pledgor has agreed to pledge the Pledged Collateral to Agent, on behalf of itself and the Lenders, in accordance herewith;

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Definitions. Unless otherwise defined herein, terms defined in the Loan Agreement are used herein as therein defined, and the following shall have (unless otherwise provided elsewhere in this Pledge Agreement) the following respective meanings (such meanings being equally applicable to both the singular and plural form of the terms defined):

"Bankruptcy Code" means title 11, United States Code, as amended from time to time, and any successor statute thereto.

"Pledge Agreement" has the meaning set forth in the preamble hereto.

"Pledged Collateral" has the meaning assigned to such term in Section 2 hereof.

"Pledged Entity" means an issuer of Pledged Shares or Pledged Indebtedness.

"Pledged Indebtedness" means the Indebtedness evidenced by promissory notes and instruments listed on Schedule I hereto.

"Pledged Shares" means those shares listed on Schedule I.

"Secured Obligations" has the meaning assigned to such term in Section 3 hereof.

2. Pledge. Each Pledgor hereby pledges to Agent, on behalf of itself and the Lenders, and grants to Agent, on behalf of itself and the Lenders, a first priority security interest in all of the following of such Pledgor, whether now existing or hereafter arising or acquired (collectively, the "Pledged Collateral"):

(a) the Pledged Shares and all documents and certificates representing or evidencing the Pledged Shares, all rights, privileges, authority and powers of Pledgor as owner or holder of the Pledged Shares (including rights arising under the bylaws, articles and similar organizational documents) and all dividends, distributions, cash, instruments and other property or proceeds from time to time received, receivable or otherwise distributed in respect of or in exchange for any or all of the Pledged Shares and all rights to receive payment of principal and interest on loans made by Pledgor to Pledged Entity and all books, records and documents pertaining to the foregoing;

(b) such portion, as determined by Agent as provided in Section 7(d) below, of any additional shares of Stock of a Pledged Entity from time to time acquired by Pledgor in any manner (which shares shall be deemed to be part of the Pledged Shares), and the certificates representing such additional shares, and all dividends, distributions, cash, instruments and other property or proceeds from time to time received, receivable or otherwise distributed in respect of or in exchange for any or all of such Stock;

(c) the Pledged Indebtedness and the promissory notes or instruments evidencing the Pledged Indebtedness, and all interest, cash, instruments and other property and assets from time to time received, receivable or otherwise distributed in respect of the Pledged Indebtedness; and

(d) all additional Indebtedness arising after the date hereof and owing to Pledgor and evidenced by promissory notes or other instruments, together with such promissory notes and instruments, and all interest, cash, instruments and other property and assets from time to time received, receivable or otherwise distributed in respect of that Indebtedness.

3. Security for Obligations. This Pledge Agreement secures, and the Pledged Collateral is security for, the prompt payment in full when due, whether at stated maturity, by acceleration or otherwise, and performance of all Obligations of any kind of each Loan Party under or in connection with the Loan Agreement and the other Loan Documents (other than the Warrants) and all Obligations of each Pledgor now or hereafter existing under this Pledge Agreement including, without limitation, all reasonable fees, costs and expenses of Agent and Lenders in connection with collection actions hereunder or otherwise (collectively, the "Secured Obligations").

4. Delivery of Pledged Collateral. All certificates and all promissory notes and instruments evidencing the Pledged Collateral shall be delivered to and held by or on behalf of Agent, pursuant hereto. All Pledged Shares shall be accompanied by duly executed instruments of transfer or assignment in blank, all in form and substance satisfactory to Agent and all promissory notes or other instruments evidencing the Pledged Indebtedness shall be endorsed by the applicable Pledgor.

5. Control Agreement with Issuer. If any Pledged Collateral constitutes uncertificated ownership interests, each Pledgor shall cause each Pledged Entity to duly authorize, execute, and deliver to the Agent on the date hereof an agreement for the benefit of Agent (on behalf of the Lenders) substantially in the form of Exhibit B (appropriately completed to the satisfaction of Agent and with such modifications, if any, as shall be satisfactory to Agent) pursuant to which each Pledged Entity agrees to comply with any and all instructions regarding the Pledged Shares originated by Agent without further consent by any Pledgor and not to comply with instructions regarding the Pledged Shares originated by any other Person.

6. Representations and Warranties. Each Pledgor represents and warrants to Agent that:

(a) Such Pledgor is, and at the time of delivery of the Pledged Shares to Agent will be, the holder of record and the sole beneficial owner of the Pledged Collateral pledged by such Pledgor free and clear of any Lien, voting trust agreements or other pledges thereon or affecting the title thereto, except for any Lien created by this Pledge Agreement; such Pledgor is and at the time of delivery of the Pledged Indebtedness to Agent will be, the sole owner of such Pledged Collateral free and clear of any Lien thereon or affecting title thereto, except for any Lien created by this Pledge Agreement;

(b) All of the Pledged Shares have been duly authorized, validly issued and are fully paid and non-assessable; the Pledged Indebtedness has been duly authorized, authenticated or issued and delivered by the obligor and is the legal, valid and binding obligations of the obligor under such Pledged Indebtedness, and neither the obligor nor Pledgor (or other Loan Party) is in default thereunder; provided that with respect to the Pledged Indebtedness where the obligor thereof is not a Loan Party, Pledgor's representations and warranties in this clause (b) shall be limited to Pledgor's Knowledge;

(c) Such Pledgor has the right and requisite authority to pledge, assign, transfer, deliver, deposit and set over the Pledged Collateral pledged by such Pledgor to Agent, on behalf of itself and the Lenders, as provided herein;

(d) None of the Pledged Shares or Pledged Indebtedness has been issued or transferred in violation of the securities registration, securities disclosure or similar laws of any jurisdiction to which such issuance or transfer may be subject;

(e) All of the Pledged Shares are presently owned by such Pledgor and are presently represented by the certificates listed on Schedule I hereto. As of the date hereof, there are no existing options, warrants, calls or commitments of any character whatsoever relating to the Pledged Shares;

(f) No consent, approval, authorization or other order or other action by, and, other than the filing of UCC financing statements, no notice to or filing with, any Governmental Authority or any other Person is required (i) for the pledge by such Pledgor of the Pledged Collateral pursuant to this Pledge Agreement or for the execution, delivery or performance of this Pledge Agreement by such Pledgor, or (ii) for the exercise by Agent of the voting or other rights provided for in this Pledge Agreement or the remedies in respect of the Pledged Collateral pursuant to this Pledge Agreement, except as may be required in connection with such disposition by laws affecting the offering and sale of securities generally;

(g) The pledge, assignment and delivery of the Pledged Collateral pursuant to this Pledge Agreement will create a valid first priority Lien on and a first priority perfected security interest in favor of Agent, on behalf of itself and the Lenders, on the Pledged Collateral and the proceeds thereof, securing the payment of the Secured Obligations, subject to no other Lien;

(h) This Pledge Agreement has been duly authorized, executed and delivered by Pledgor and constitutes a legal, valid and binding obligation of Pledgor enforceable against Pledgor in accordance with its terms;

(i) The Pledged Shares constitute the percentage of the issued and outstanding shares of Stock of each Pledged Entity as set forth in Schedule I;

(j) No action has been commenced or threatened in writing that would reasonably be expected to prohibit or interfere with the execution and delivery of this Pledge Agreement or the performance or discharge of the obligations, duties, covenants, agreements and liabilities contained herein; and

(k) None of the Pledged Indebtedness is subordinated in right of payment to other Indebtedness (except for the Secured Obligations, if applicable) or subject to the terms of an indenture.

The representations and warranties set forth in this Section 6 shall survive the execution and delivery of this Pledge Agreement.

7. Covenants. Each Pledgor covenants and agrees that until the Termination Date (which covenants are in addition to and not in lieu of other applicable provisions of the Loan Agreement):

(a) Without the prior written consent of Agent, such Pledgor will not sell, assign, transfer, pledge, or otherwise encumber any of its rights in or to the Pledged Collateral, or any unpaid dividends, interest or other distributions or payments with respect to the Pledged Collateral or grant a Lien in the Pledged Collateral, unless otherwise expressly permitted by the Loan Agreement;

(b) Such Pledgor will, at its expense, promptly execute, acknowledge and deliver all such instruments and take all such actions as Agent from time to time may reasonably request in order to ensure to Agent the benefits of the Liens in and to the Pledged Collateral intended to be created by this Pledge Agreement, including the filing of any necessary UCC financing statements, which may be filed by Agent with or (to the extent permitted by law) without the signature of such Pledgor, and will cooperate with Agent, at such Pledgor's expense, in obtaining all necessary approvals and making all necessary filings under federal, state, local or foreign law in connection with such Liens or any sale or transfer of the Pledged Collateral;

(c) Such Pledgor has and will defend the title to the Pledged Collateral and the Liens of Agent in the Pledged Collateral against the claim of any Person and will maintain and preserve such Liens and will do or cause to be done all things reasonably necessary to preserve and to keep in full force and effect its interest in the Pledged Collateral;

(d) Such Pledgor will, upon obtaining ownership of any additional Stock, promissory notes or instruments of a Pledged Entity or Stock or promissory notes or instruments otherwise required to be pledged to Agent pursuant to any of the Loan Documents, which Stock, notes or instruments are not already Pledged Collateral, promptly (and in any event within three (3) Business Days) deliver to Agent a Pledge Amendment, duly executed by Pledgor, in substantially the form of Exhibit A hereto (a "Pledge Amendment") in respect of any such additional Stock, notes or instruments, pursuant to which Pledgor shall pledge to Agent, on behalf of itself and the Lenders, all of such additional Stock, notes and instruments. Pledgor hereby authorizes Agent to attach each Pledge Amendment to this Pledge Agreement and agrees that all Pledged Shares and Pledged Indebtedness listed on any Pledge Amendment delivered to Agent shall for all purposes hereunder be considered Pledged Collateral;

(e) Such Pledgor shall cooperate in all reasonable respects with Agent's efforts to preserve the Pledged Collateral and to take such actions to preserve the Pledged Collateral as Agent may in good faith direct; and

(f) Such Pledgor consents to the admission of Agent, and its assigns or designees, as a member, partner or stockholder of the Pledged Entity upon Agent's acquisition of any of the Pledged Shares.

8. Pledgor's Rights. As long as no Event of Default shall have occurred and be continuing and until written notice shall be given to the Pledgors in accordance with Section 9(a) hereof:

(a) Each Pledgor shall have the right, from time to time, to vote and give consents with respect to the Pledged Collateral, or any part thereof for all purposes not inconsistent with the provisions of this Pledge Agreement, the Loan Agreement or any other Loan Document; provided, however, that no vote shall be cast, and no consent shall be given or action taken, which would have the effect of impairing the position or interest of Agent in respect of the Pledged Collateral or which would authorize, effect or consent to (unless and to the extent expressly permitted by the Loan Agreement) any of the following:

(i) the dissolution or liquidation, in whole or in part, of a Pledged Entity;

(ii) the consolidation or merger of a Pledged Entity with any other Person;

(iii) the sale, disposition or encumbrance of all or substantially all of the assets of a Pledged Entity, except for the granting of Liens in favor of Agent;

(iv) any change in the authorized number of shares, the stated capital or the authorized share capital of a Pledged Entity or the issuance of any additional shares of its Stock; or

(v) the alteration of the voting rights with respect to the Stock of a Pledged Entity;

(b) each Pledgor shall be entitled, from time to time, to collect and receive for its own use all cash dividends and interest paid in respect of the Pledged Shares and Pledged Indebtedness to the extent not in violation of the Loan Agreement other than any and all: (A) dividends and interest paid or payable other than in cash in respect of any Pledged Collateral, and instruments and other property received, receivable or otherwise distributed in respect of, or in exchange for, any Pledged Collateral; (B) dividends and other distributions paid or payable in cash in respect of any Pledged Shares in connection with a partial or total liquidation or dissolution or in connection with a reduction of capital, capital surplus or paid-in capital of a Pledged Entity; and (C) cash paid, payable or otherwise distributed, in respect of principal of, or in redemption of, or in exchange for, any Pledged Collateral; provided, however, that until actually paid all rights to such distributions shall remain subject to the Lien created by this Pledge Agreement; and

(c) all dividends and interest (other than such cash dividends and interest as are permitted to be paid to each Pledgor in accordance with clause (b) above) and all other distributions in respect of any of the Pledged Shares or Pledged Indebtedness, whenever paid or made, shall be delivered to Agent to hold as Pledged Collateral and shall, if received by such Pledgor, be received in trust for the benefit of Agent, be segregated from the other property or funds of such Pledgor, and be forthwith delivered to Agent as Pledged Collateral in the same form as so received (with any necessary indorsement).

9. Defaults and Remedies; Proxy.

(a) Upon the occurrence of an Event of Default and during the continuation of such Event of Default, and with written notice to Borrower, Agent (personally or through an agent) is hereby authorized and empowered to transfer and register in its name or in the name of its nominee the whole or any part of the Pledged Collateral, to exchange certificates or instruments representing or evidencing Pledged Collateral for certificates or instruments of smaller or larger denominations, to exercise the voting and all other rights as a holder with respect thereto, to collect and receive all cash dividends, interest, principal and other distributions made thereon, to sell in one or more sales after ten (10) days' notice of the time and place of any public sale or of the time at which a private sale is to take place (which notice each Pledgor agrees is commercially reasonable) the whole or any part of the Pledged Collateral and to otherwise act with respect to the Pledged Collateral as though Agent was the outright owner thereof. Any sale shall be made at a public or private sale at Agent's place of business, or at any place to be named in the notice of sale, either for cash or upon credit or for future delivery at such price as Agent may deem fair, and Agent may be the purchaser of the whole or any part of the Pledged Collateral so sold and hold the same thereafter in its own right free from any claim of any Pledgor or any right of redemption. Each sale shall be made to the highest bidder, but Agent reserves the right to reject any and all bids at such sale which, in its discretion, it shall deem inadequate. Demands of performance, except as otherwise herein specifically provided for, notices of sale, advertisements and the presence of property at sale are hereby waived and any sale hereunder may be conducted by an auctioneer or any officer or agent of Agent. EFFECTIVE UPON AN EVENT OF DEFAULT THAT REMAINS CONTINUING EACH PLEDGOR HEREBY IRREVOCABLY CONSTITUTES AND APPOINTS AGENT AS THE PROXY AND ATTORNEY-IN-FACT OF PLEDGOR WITH RESPECT TO THE PLEDGED COLLATERAL, INCLUDING THE RIGHT TO VOTE THE PLEDGED SHARES, WITH FULL POWER OF SUBSTITUTION TO DO SO. THE APPOINTMENT OF AGENT AS PROXY AND ATTORNEY-IN-FACT IS COUPLED WITH AN INTEREST AND SHALL BE IRREVOCABLE UNTIL THE TERMINATION DATE. IN ADDITION TO THE RIGHT TO VOTE THE PLEDGED SHARES, THE APPOINTMENT OF AGENT AS PROXY AND ATTORNEY-IN-FACT SHALL INCLUDE THE RIGHT TO EXERCISE ALL OTHER RIGHTS, POWERS, PRIVILEGES AND REMEDIES TO WHICH A HOLDER OF THE PLEDGED SHARES WOULD BE ENTITLED (INCLUDING GIVING OR WITHHOLDING WRITTEN CONSENTS OF SHAREHOLDERS, CALLING SPECIAL MEETINGS OF SHAREHOLDERS AND VOTING AT SUCH MEETINGS). SUCH PROXY SHALL BE EFFECTIVE, AUTOMATICALLY AND WITHOUT THE NECESSITY OF ANY ACTION (INCLUDING ANY TRANSFER OF ANY PLEDGED SHARES ON THE RECORD BOOKS OF THE ISSUER THEREOF) BY ANY PERSON (INCLUDING THE ISSUER OF THE PLEDGED SHARES OR ANY OFFICER OR AGENT THEREOF), UPON THE OCCURRENCE OF AN EVENT OF DEFAULT. NOTWITHSTANDING THE FOREGOING, AGENT SHALL NOT HAVE ANY DUTY TO EXERCISE ANY SUCH RIGHT OR TO PRESERVE THE SAME AND SHALL NOT BE LIABLE FOR ANY FAILURE TO DO SO OR FOR ANY DELAY IN DOING SO.

(b) If, at the original time or times appointed for the sale of the whole or any part of the Pledged Collateral, the highest bid, if there be but one sale, shall be inadequate to discharge in full all the Secured Obligations, or if the Pledged Collateral be offered for sale in lots, if at any of such sales, the highest bid for the lot offered for sale would indicate to Agent, in its discretion, that the proceeds of the sales of the whole of the Pledged Collateral would be unlikely to be sufficient to discharge all the Secured Obligations, Agent may, on one or more occasions and in its discretion, postpone any of said sales by public announcement at the time of sale or the time of previous postponement of sale, and no other notice of such postponement or postponements of sale need be given, any other notice being hereby waived; provided, however, that any sale or sales made after such postponement shall be after five (5) days' notice to the applicable Pledgor.

(c) [Reserved].

(d) [Reserved].

(e) If, at any time when Agent shall determine to exercise its right to sell the whole or any part of the Pledged Collateral hereunder, such Pledged Collateral or the part thereof to be sold shall not, for any reason whatsoever, be effectively registered under the Act, Agent may, in its discretion (subject only to applicable requirements of law), sell such Pledged Collateral or part thereof by private sale in such manner and under such circumstances as Agent may deem necessary or advisable, but subject to the other requirements of this Section 9, and shall not be required to effect a registration of such Pledged Collateral under the Act or to cause the same to be effected. Without limiting the generality of the foregoing, in any such event, Agent in its discretion (x) may, in accordance with applicable securities laws, proceed to make such private sale notwithstanding that a registration statement for the purpose of registering such Pledged Collateral or part thereof could be or shall have been filed under said Act (or similar statute), (y) may approach and negotiate with a single possible purchaser to effect such sale, and (z) may restrict such sale to a purchaser who is an accredited investor under the Act and who will represent and agree that such purchaser is purchasing for its own account, for investment and not with a view to the distribution or sale of such Pledged Collateral or any part thereof. In addition to a private sale as provided above in this Section 9, if any of the Pledged Collateral shall not be freely distributable to the public without registration under the Act (or similar statute) at the time of any proposed sale pursuant to this Section 9, then Agent shall not be required to effect such registration or cause the same to be effected but, in its discretion (subject only to applicable requirements of law), may require that any sale hereunder (including a sale at auction) be conducted subject to restrictions:

(i) as to the financial sophistication and ability of any person or entity permitted to bid or purchase at any such sale;

(ii) as to the content of legends to be placed upon any certificates representing the Pledged Collateral sold in such sale, including restrictions on future transfer thereof;

(iii) as to the representations required to be made by each Person bidding or purchasing at such sale relating to that Person's access to financial information about the Pledgors and such Person's intentions as to the holding of the Pledged Collateral so sold for investment for its own account and not with a view to the distribution thereof; and

(iv) as to such other matters as Agent may, in its discretion, deem necessary or appropriate in order that such sale (notwithstanding any failure so to register) may be effected in compliance with the Bankruptcy Code and other laws affecting the enforcement of creditors' rights and the Act and all applicable state securities laws.

(f) Each Pledgor recognizes that Agent may be unable to effect a public sale of any or all the Pledged Collateral and may be compelled to resort to one or more private sales thereof in accordance with clause (e) above. Each Pledgor also acknowledges that any such private sale may result in prices and other terms less favorable to the seller than if such sale were a public sale and, notwithstanding such circumstances, agrees that any such private sale shall not be deemed to have been made in a commercially unreasonable manner solely by virtue of such sale being private. Agent shall be under no obligation to delay a sale of any of the Pledged Collateral for the period of time necessary to permit the Pledged Entity to register such securities for public sale under the Act, or under applicable state securities laws, even if the applicable Pledgor and the Pledged Entity would agree to do so.

(g) Each Pledgor agrees to the maximum extent permitted by applicable law that following the occurrence and during the continuance of an Event of Default it will not at any time plead, claim or take the benefit of any appraisal, valuation, stay, extension, moratorium or redemption law now or hereafter in force in order to prevent or delay the enforcement of this Pledge Agreement, or the absolute sale of the whole or any part of the Pledged Collateral or the possession thereof by any purchaser at any sale hereunder, and each Pledgor waives the benefit of all such laws to the extent it lawfully may do so. Each Pledgor agrees that it will not interfere with any right, power and remedy of Agent provided for in this Pledge Agreement or now or hereafter existing at law or in equity or by statute or otherwise, or the exercise or beginning of the exercise by Agent of any one or more of such rights, powers or remedies. No failure or delay on the part of Agent to exercise any such right, power or remedy and no notice or demand which may be given to or made upon any Pledgor by Agent with respect to any such remedies shall operate as a waiver thereof, or limit or impair Agent's right to take any action or to exercise any power or remedy hereunder, without notice or demand, or prejudice its rights as against any Pledgor in any respect.

(h) Each Pledgor further agrees that a breach of any of the covenants contained in this Section 9 will cause irreparable injury to Agent, that Agent shall have no adequate remedy at law in respect of such breach and, as a consequence, agrees that each and every covenant contained in this Section 9 shall be specifically enforceable against Pledgor, and each Pledgor hereby waives and agrees not to assert any defenses against an action for specific performance of such covenants except for a defense that the Secured Obligations are not then due and payable in accordance with the agreements and instruments governing and evidencing such obligations.

10. Assignment. Agent may assign, indorse or transfer any instrument evidencing all or any part of the Secured Obligations as provided in, and in accordance with, the Loan Agreement, and the holder of such instrument shall be entitled to the benefits of this Pledge Agreement.

11. Termination. Upon the Termination Date, (a) Agent's lien on and security interest in the Pledged Collateral shall be automatically terminated without any instrument or performance of any act, and (b) at the request of Borrower, Agent shall, at Borrower's sole cost and expense and without any recourse, representation or warranty, return to Pledgor all Pledged Collateral previously delivered to Agent under this Agreement and execute and deliver to Borrower such documents as Borrower shall reasonably request to evidence such termination.

12. Lien Absolute. All rights of Agent, on behalf of itself and the Lenders, hereunder, and all obligations of each Pledgor hereunder, shall be absolute and unconditional irrespective of:

(a) any lack of validity or enforceability of the Loan Agreement, any other Loan Document or any other agreement or instrument governing or evidencing any Secured Obligations;

(b) any change in the time, manner, place or terms of payment of, or in any other term of, all or any part of the Secured Obligations, or any other amendment or waiver of or any consent to any departure from the Loan Agreement, any other Loan Document or any other agreement or instrument governing or evidencing any Secured Obligations;

(c) any exchange, release or non-perfection of any other Collateral, or any release or amendment or waiver of or consent to departure from any guaranty (including, without limitation, the Guaranty Agreement), for all or any of the Secured Obligations;

(d) the insolvency of any Loan Party; or

(e) any other action or circumstance which might otherwise constitute a defense available to, or a legal or equitable discharge of, any Pledgor.

13. Release. Each Pledgor consents and agrees that Agent may at any time, or from time to time, in its discretion:

(a) renew, extend or change the time of payment, and/or the manner, place or terms of payment of all or any part of the Secured Obligations in accordance with the terms of the Loan Documents; and

(b) exchange, release and/or surrender all or any of the Collateral (including the Pledged Collateral), or any part thereof, by whomsoever deposited, which is now or may hereafter be held by Agent in connection with all or any of the Secured Obligations; all in such manner and upon such terms as Agent may deem proper, and without notice to or further assent from any Pledgor, it being hereby agreed that each Pledgor shall be and remain bound upon this Pledge Agreement, irrespective of the value or condition of any of the Collateral, and notwithstanding any such change, exchange, settlement, compromise, surrender, release, renewal or extension, and notwithstanding also that the Secured Obligations may, at any time, exceed the aggregate principal amount thereof set forth in the Loan Agreement, or any other agreement governing any Secured Obligations. Each Pledgor hereby waives notice of acceptance of this Pledge Agreement, and also presentment, demand, protest and notice of dishonor of any and all of the Secured Obligations, and promptness in commencing suit against any party hereto or liable hereon, and in giving any notice to or of making any claim or demand hereunder upon any Pledgor. No act or omission of any kind on Agent's part shall in any event affect or impair this Pledge Agreement.

14. Reinstatement. This Pledge Agreement shall remain in full force and effect and continue to be effective should any petition be filed by or against any Pledgor or any Pledged Entity for liquidation or reorganization, should any Pledgor or any Pledged Entity become insolvent or make an assignment for the benefit of creditors or should a receiver or trustee be appointed for all or any significant part of a Pledgor's or a Pledged Entity's assets, and shall continue to be effective or be reinstated, as the case may be, if at any time payment and performance of the Secured Obligations, or any

part thereof, is, pursuant to applicable law, rescinded or reduced in amount, or must otherwise be restored or returned by any obligee of the Secured Obligations, whether as a "voidable preference", "fraudulent conveyance", or otherwise, all as though such payment or performance had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, restored or returned, the Secured Obligations shall be reinstated and deemed reduced only by such amount paid and not so rescinded, reduced, restored or returned.

15. Notices. Except as otherwise provided herein, whenever it is provided herein that any notice, demand, request, consent, approval, declaration or other communication shall or may be given to or served upon any of the parties by any other party, or whenever any of the parties desires to give and serve upon any other party any communication with respect to this Pledge Agreement, each such notice, demand, request, consent, approval, declaration or other communication shall be in writing and shall be given in the manner, and deemed received, as provided for in the Loan Agreement.

16. Severability. Whenever possible, each provision of this Pledge Agreement shall be interpreted in a manner as to be effective and valid under applicable law, but if any provision of this Pledge Agreement shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity without invalidating the remainder of such provision or the remaining provisions of this Pledge Agreement. This Pledge Agreement is to be read, construed and applied together with the Loan Agreement and the other Loan Documents which, taken together, set forth the complete understanding and agreement of Agent and the Pledgors with respect to the matters referred to herein and therein.

17. No Waiver; Cumulative Remedies; Amendments. Neither Agent nor any Lender shall by any act, delay, omission or otherwise be deemed to have waived any of its rights or remedies hereunder, and no waiver shall be valid unless in writing, signed by Agent and then only to the extent therein set forth. A waiver by Agent, for itself and the ratable benefit of Lenders, of any right or remedy hereunder on any one occasion shall not be construed as a bar to any right or remedy which Agent would otherwise have had on any future occasion. No failure to exercise nor any delay in exercising on the part of Agent or any Lender, any right, power or privilege hereunder, shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or future exercise thereof or the exercise of any other right, power or privilege. The rights and remedies hereunder provided are cumulative and may be exercised singly or concurrently, and are not exclusive of any rights and remedies provided by law. None of the terms or provisions of this Pledge Agreement may be waived, altered, modified, supplemented or amended except by an instrument in writing, duly executed by Agent and each Pledgor.

18. Limitation By Law. All rights, remedies and powers provided in this Pledge Agreement may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law, and all the provisions of this Pledge Agreement are intended to be subject to all applicable mandatory provisions of law that may be controlling and to be limited to the extent necessary so that they shall not render this Pledge Agreement invalid, unenforceable, in whole or in part, or not entitled to be recorded, registered or filed under the provisions of any applicable law.

19. Successors And Assigns. This Pledge Agreement and all obligations of the Pledgors hereunder shall be binding upon the successors and assigns of each Pledgor (including any debtor-in-possession on behalf of such Pledgor) and shall, together with the rights and remedies of Agent hereunder, inure to the benefit of Agent and Lenders, all future holders of any instrument evidencing any of the Secured Obligations and their respective successors and assigns under the Loan Agreement. No sales of participations, other sales, assignments, transfers or other dispositions of any agreement governing or instrument evidencing the obligations or any portion thereof or interest therein shall in any manner impair the Lien granted to Agent, hereunder. No Pledgor may assign, sell, hypothecate or otherwise transfer any interest in or obligation under this Pledge Agreement.

20. Counterparts. This Pledge Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which when taken together shall constitute one and the same agreement. Delivery of an executed signature page of this Pledge Agreement by facsimile transmission or electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

21. Section Titles. The Section titles contained in this Pledge Agreement are and shall be without substantive meaning or content of any kind whatsoever and are not a part of the agreement between the parties hereto.

22. No Strict Construction. The parties hereto have participated jointly in the negotiation and drafting of this Pledge Agreement. In the event an ambiguity or question of intent or interpretation arises, this Pledge Agreement shall be construed as if drafted jointly by the parties hereto and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provisions of this Pledge Agreement.

23. Advice of Counsel. Each of the parties represents to each other party hereto that it has discussed this Pledge Agreement with its counsel.

24. GOVERNING LAW AND JURISDICTION.

(a) GOVERNING LAW. THIS PLEDGE AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES OF SUCH STATE), INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE PLEDGED COLLATERAL, PROVIDED, HOWEVER, THAT IF THE LAWS OF ANY JURISDICTION OTHER THAN NEW YORK SHALL GOVERN IN REGARD TO THE VALIDITY, PERFECTION OR EFFECT OF PERFECTION OF ANY LIEN OR IN REGARD TO PROCEDURAL MATTERS AFFECTING ENFORCEMENT OF ANY LIENS IN PLEDGED COLLATERAL, SUCH LAWS OF SUCH OTHER JURISDICTIONS SHALL CONTINUE TO APPLY TO THAT EXTENT.

(b) SUBMISSION TO JURISDICTION. ANY LEGAL ACTION OR PROCEEDING WITH RESPECT TO THIS PLEDGE AGREEMENT SHALL BE BROUGHT EXCLUSIVELY IN THE COURTS OF THE STATE OF NEW YORK LOCATED IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, OR OF THE UNITED STATES OF AMERICA FOR THE SOUTHERN DISTRICT OF NEW YORK AND, BY EXECUTION AND DELIVERY OF THIS PLEDGE AGREEMENT, EACH PLEDGOR EXECUTING THIS PLEDGE AGREEMENT HEREBY ACCEPTS FOR ITSELF AND IN RESPECT OF ITS PROPERTY, GENERALLY AND UNCONDITIONALLY, THE JURISDICTION OF THE AFORESAID COURTS. NOTWITHSTANDING THE FOREGOING, AGENT AND THE LENDERS SHALL HAVE THE RIGHT TO BRING ANY ACTION OR PROCEEDING AGAINST ANY PLEDGOR (OR ANY PLEDGED COLLATERAL) IN THE COURT OF ANY OTHER JURISDICTION AGENT OR THE LENDERS DEEM NECESSARY OR APPROPRIATE IN ORDER TO REALIZE ON THE PLEDGED COLLATERAL OR OTHER

SECURITY FOR THE OBLIGATIONS. THE PARTIES HERETO HEREBY IRREVOCABLY WAIVE ANY OBJECTION, INCLUDING ANY OBJECTION TO THE LAYING OF VENUE OR BASED ON THE GROUNDS OF FORUM NON CONVENIENS, THAT ANY OF THEM MAY NOW OR HEREAFTER HAVE TO THE BRINGING OF ANY SUCH ACTION OR PROCEEDING IN SUCH JURISDICTIONS.

(c) SERVICE OF PROCESS. EACH PLEDGOR HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF ANY AND ALL LEGAL PROCESS, SUMMONS, NOTICES AND OTHER DOCUMENTS AND OTHER SERVICE OF PROCESS OF ANY KIND AND CONSENTS TO SUCH SERVICE IN ANY SUIT, ACTION OR PROCEEDING BROUGHT IN THE UNITED STATES OF AMERICA WITH RESPECT TO OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH THIS PLEDGE AGREEMENT BY ANY MEANS PERMITTED BY APPLICABLE REQUIREMENTS OF LAW, INCLUDING BY THE MAILING THEREOF (BY REGISTERED OR CERTIFIED MAIL, POSTAGE PREPAID) TO THE ADDRESS OF PLEDGOR SPECIFIED HEREIN (AND SHALL BE EFFECTIVE WHEN SUCH MAILING SHALL BE EFFECTIVE, AS PROVIDED THEREIN). EACH PLEDGOR AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW.

(d) NON-EXCLUSIVE JURISDICTION. NOTHING CONTAINED IN THIS SECTION 24 SHALL AFFECT THE RIGHT OF AGENT OR THE LENDERS TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY APPLICABLE REQUIREMENTS OF LAW OR COMMENCE LEGAL PROCEEDINGS OR OTHERWISE PROCEED AGAINST ANY PLEDGOR IN ANY OTHER JURISDICTION.

25. WAIVER OF JURY TRIAL. EACH PLEDGOR, AGENT AND LENDER UNCONDITIONALLY WAIVE ANY AND ALL RIGHT TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS PLEDGE AGREEMENT, ANY OF THE OBLIGATIONS SECURED HEREBY, ANY DEALINGS AMONG PLEDGORS, AGENT AND/OR THE LENDERS RELATING TO THE SUBJECT MATTER OF THIS TRANSACTION OR ANY RELATED TRANSACTIONS, AND/OR THE RELATIONSHIP THAT IS BEING ESTABLISHED AMONG PLEDGORS, AGENT AND/OR THE LENDERS. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT. THIS WAIVER IS IRREVOCABLE. THIS WAIVER MAY NOT BE MODIFIED EITHER ORALLY OR IN WRITING. THE WAIVER ALSO SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO THIS PLEDGE AGREEMENT OR TO ANY OTHER DOCUMENTS OR AGREEMENTS RELATING TO THIS TRANSACTION OR ANY RELATED TRANSACTION. THIS PLEDGE AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.

26. Benefit of Agent. All Liens granted or contemplated hereby shall be for the benefit of Agent, on behalf of itself and the Lenders, and all proceeds or payments realized from Pledged Collateral in accordance herewith shall be applied to the Secured Obligations in accordance with the terms of the Loan Agreement.

27. Additional Pledgors. Additional Pledgors may become party to this Pledge Agreement by the execution and delivery by such Person of a joinder agreement in form and substance

satisfactory to Agent and such other documents and deliverables as may be required by Agent. Upon receipt of such items, such Person shall become a "Pledgor" hereunder with the same force and effect as if it were originally a party to this Pledge Agreement and named as a "Pledgor" hereunder. The execution and delivery of such joinder agreement or such other requested deliverables, and the joining of such Person to this Pledge Agreement, shall not require the consent of any other Pledgor hereunder, and the rights and obligations of each Pledgor hereunder shall remain in full force and effect notwithstanding the addition of any new Pledgor as a party to this Pledge Agreement.

[*Signature page follows*]

IN WITNESS WHEREOF, each of the parties hereto has caused this Pledge Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

PLEDGOR:

AMEDICA CORPORATION

By: /s/ Eric Olson

Name: Eric Olson

Title: CEO

[SIGNATURE PAGE TO PLEDGE AGREEMENT]

GENERAL ELECTRIC CAPITAL CORPORATION, as Agent

By: /s/ Peter Gibson

Name: Peter Gibson
Title: Duly Authorized Signatory

[SIGNATURE PAGE TO PLEDGE AGREEMENT]

SCHEDULE I

PART A

PLEDGED SHARES

Pledged Entity	Pledgor	Class of Stock	Stock Certificate Number(s)	Number of Shares	Percentage of Outstanding Shares
US Spine, Inc.	Amedica Corporation	Common stock	CM001	1	100.0%

PART B

PLEDGED INDEBTEDNESS

Pledged Entity	Pledgor	Initial Principal Amount	Issue Date	Maturity Date	Interest Rate

Exhibit A

PLEDGE AMENDMENT

This Pledge Amendment, dated December 17, 2012 is delivered pursuant to Section 7(d) of the Pledge Agreement referred to below. All defined terms herein shall have the meanings ascribed thereto or incorporated by reference in the Pledge Agreement. The undersigned hereby certifies that the representations and warranties in Section 6 of the Pledge Agreement are and continue to be true and correct, both as to the promissory notes, instruments and shares pledged prior to this Pledge Amendment and as to the promissory notes, instruments and shares pledged pursuant to this Pledge Amendment. The undersigned further agrees that this Pledge Amendment may be attached to that certain Pledge Agreement, dated as of December 17, 2012, between undersigned, as Pledgor, the other Pledgors signatory thereto and General Electric Capital Corporation, as Agent, (the "Pledge Agreement") and that the Pledged Shares and Pledged Indebtedness listed on this Pledge Amendment shall be and become a part of the Pledged Collateral referred to in said Pledge Agreement and shall secure all Secured Obligations referred to in said Pledge Agreement. The undersigned acknowledges that any promissory notes, instruments or shares not included in the Pledged Collateral at the discretion of Agent may not otherwise be pledged by Pledgor to any other Person otherwise used as security for any obligations other than the Secured Obligations.

[NAME OF PLEDGOR]

By: ______________________________
Name:
Title:

Name and Address of Pledgor	Pledged Entity	Class Of Stock	Certificate Number(s)	Number Of Shares	Percentage of Outstanding Shares

Pledged Entity	Initial Principal Amount	Issue Date	Maturity Date	Interest Rate

Exhibit B

AGREEMENT REGARDING UNCERTIFICATED LIMITED LIABILITY COMPANY INTERESTS

AGREEMENT (as amended, modified, restated and/or supplemented from time to time, this "Agreement"), dated as of among [ ], a [ ] (the "Pledgor"), GENERAL ELECTRIC CAPITAL CORPORATION, as agent (the "Pledgee"), and , as the issuer of the Uncertificated Limited Liability Company Interests (as defined below) (the "Issuer").

WITNESSETH:

WHEREAS, Pursuant to the Loan and Security Agreement, dated as of December 17, 2012, by and among Amedica Corporation ("Borrower"), US Spine, Inc., the other loan parties party thereto from time to time, the Lenders from time to time party signatory thereto and the Pledgee (including all annexes, exhibits and schedules thereto, as from time to time amended, restated, supplemented or otherwise modified, the "Loan Agreement"), the Lenders have severally agreed to make Revolving Loans and a Term Loan to Borrower on the terms and conditions set forth in the Loan Agreement;

WHEREAS, the Pledgor, in order to secure the payment of the obligations outstanding under the Loan Agreement (the "Obligations"), has entered into a Pledge Agreement, dated as of December 17, 2012, by and between the Pledgor and the Pledgee (the "Pledge Agreement"), pursuant to which the Pledgor has pledged to the Pledgee and the other parties signatory thereto and granted a security interest in favor of the Pledgee in all of the right, title and interest of the Pledgor in and to certain limited liability company membership units in the Issuer (the "Issuer Pledged Interests"); and

WHEREAS, the Pledgor desires the Issuer to enter into this Agreement in order to perfect the security interest of the Pledgee under the Pledge Agreement in the Issuer Pledged Interests, to vest in the Pledgee control of the Issuer Pledge Interests and to provide for the rights of the parties under this Agreement;

NOW THEREFORE, in consideration of the premises and the mutual promises and agreements contained herein, and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. The Pledgor hereby irrevocably authorizes and directs the Issuer, and the Issuer hereby agrees, to comply with any and all instructions and orders originated by the Pledgee (and its successors and assigns) regarding any and all of the Issuer Pledged Interests without the further consent by the registered owner (including the Pledgor), and, following its receipt of a notice from the Pledgee stating that the Pledgee is exercising exclusive control of the Issuer Pledged Interests, not to comply with any instructions or orders regarding any or all of the Issuer Pledged Interests originated by any person or entity other than the Pledgee (and its successors and assigns) or a court of competent jurisdiction.

2. The Issuer hereby certifies that (i) no notice of any security interest, lien or other encumbrance or claim affecting the Issuer Pledged Interests (other than the security interest of the Pledgee) has been received by it, and (ii) the security interest of the Pledgee in the Issuer Pledged Interests has been registered in the books and records of the Issuer.

3. The Issuer hereby represents and warrants that the pledge by the Pledgor of, and the granting by the Pledgor of a security interest in, the Issuer Pledged Interests to the Pledgee does not violate the charter, by-laws, partnership agreement, membership agreement or any other agreement governing the Issuer or the Issuer Pledged Interests.

4. All notices, statements of accounts, reports, prospectuses, financial statements and other communications to be sent to the Pledgor by the Issuer in respect of the Issuer will also be sent to the Pledgee at the following address:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: General Counsel
Telephone No.: 301-961-1640
Facsimile No.: 301-664-9866

With a copy to:

General Electric Capital Corporation
c/o GE Healthcare Financial Services, Inc.
Two Bethesda Metro Center, Suite 600
Bethesda, Maryland 20814
Attention: General Counsel
Telephone No.: 301-961-1640
Facsimile No.: 301-664-9866

5. Following its receipt of a notice from the Pledgee stating that the Pledgee is exercising exclusive control of the Issuer Pledged Interests and until the Pledgee shall have delivered written notice to the issuer that all of the Obligations have been paid in full and this Agreement is terminated, the Issuer will send any and all redemptions, distributions, interest or other payments in respect of the Issuer Pledged Interests from the Issuer for the account of the Pledgee only by wire transfers to such account as the Pledgee shall instruct.

6. Except as expressly provided otherwise in Sections 4 and 5, all notices, instructions, orders and communications hereunder shall be sent or delivered by mail, telecopy, or overnight courier service and all such notices and communications shall, when mailed, telecopied, or sent by overnight courier, be effective when deposited in the mails or delivered to overnight courier, prepaid and properly addressed for delivery on such or the next Business Day, or sent by telecopier, except that notices and communications to the Pledgee or the Issuer shall not be effective until received. All notices and other communications shall be in writing and addressed as follows:

(a) if to Pledgor at:

____

____

____

____

Attention:

(b) if to the Pledgee, at the address given in Section 4;

(c) if to the Issuer, at:

____

____

____

____

or at such other address as shall have been furnished in writing by any Person described above to the party required to give notice hereunder. As used in this Section 6, "Business Day" means any day other than a Saturday, Sunday, or other day in which banks in New York are authorized to remain closed.

7. This Agreement shall be binding upon the successors and assigns of the Pledgor and the Issuer and shall inure to the benefit of and be enforceable by the Pledgee and its successors and assigns. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which shall constitute one instrument. In the event that any provision of this Agreement shall prove to be invalid or unenforceable, such provision shall be deemed to be severable from the other provisions of this Agreement which shall remain binding on all parties hereto. None of the terms and conditions of this Agreement may be changed, waived, modified or varied in any manner whatsoever except in writing signed by the Pledgee, the Issuer and the Pledgor.

8. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, without regard to its principles of conflict of laws.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

[PLEDGOR]

By: ____________________
Name: ____________________
Title: ____________________

GENERAL ELECTRIC CAPITAL CORPORATION, as Agent

By: ____________________
Name: ____________________
Title: ____________________

[ISSUER]

By: ____________________
Name: ____________________
Title: ____________________

Exhibit 10.6

INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT (as the same may be amended, restated, supplemented or otherwise modified from time to time, the "Agreement"), dated as of December 17, 2012, is made by each of the entities listed on the signature pages hereof (each a "Grantor" and, collectively, the "Grantors"), in favor of General Electric Capital Corporation ("GE Capital"), as administrative and collateral agent (in such capacity, together with its successors and permitted assigns, the "Agent") for the Agent and the Lenders (as defined in the Loan Agreement referred to below).

W I T N E S S E T H:

WHEREAS, pursuant to the Loan and Security Agreement, dated as of December 17, 2012 (as the same may be amended, restated, supplemented or otherwise modified from time to time, the "Loan Agreement"), among Amedica Corporation ("Borrower"), US Spine, Inc. ("Guarantor"), the other loan parties party thereto from time to time, the Lenders from time to time party thereto and GE Capital, as Agent for the Lenders, the Lenders have severally agreed to make Revolving Loans and a Term Loan (collectively, "Loans") to Borrower upon the terms and subject to the conditions set forth therein;

WHEREAS, Guarantor has agreed, pursuant to a Guaranty of even date herewith (the "Guaranty Agreement") in favor of Agent, to guarantee the Guaranteed Obligations (as defined in the Guaranty Agreement); and

WHEREAS, all of the Grantors are party to the Loan Agreement pursuant to which the Grantors are required to execute and deliver this Agreement.

NOW, THEREFORE, in consideration of the premises and to induce the Lenders and the Agent to enter into the Loan Agreement and to induce the Lenders to make the Loans to Borrower thereunder, each Grantor hereby agrees with the Agent as follows:

Section 1. Defined Terms. Capitalized terms used herein without definition are used as defined in the Loan Agreement.

Section 2. Grant of Security Interest in Collateral. Each Grantor, as collateral security for the prompt and complete payment and performance when due (whether at stated maturity, by acceleration or otherwise) of the Obligations, hereby mortgages, pledges and hypothecates to the Agent for the benefit of Lenders, and grants to the Agent for the benefit of Lenders a Lien on and security interest in, all of its right, title and interest in, to and under the following property of such Grantor (the "Collateral"):

(a) all Intellectual Property including, without limitation, those referred to on Schedule I hereto;

(b) all licenses providing for the grant by or to such Grantor of any right under any Intellectual Property, including, without limitation, those referred to on Schedule I hereto;

(c) all reissues, reexaminations, continuations, continuations-in-part, divisionals, renewals, reversions and extensions of the foregoing;

(d) all goodwill of the Grantor connected with the use of, and symbolized by, such Intellectual Property; and

(e) all income, royalties, proceeds and liabilities at any time due or payable or asserted under and with respect to any of the foregoing, including, without limitation, all rights to sue and recover at law or in equity for any past, present and future infringement, misappropriation, dilution, violation or other impairment thereof.

Section 3. Loan Agreement. The security interest granted pursuant to this Agreement is granted in conjunction with the security interest granted to the Agent pursuant to the Loan Agreement and each Grantor hereby acknowledges and agrees that the rights and remedies of the Agent with respect to the security interest in the Collateral made and granted hereby are more fully set forth in the Loan Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein.

Section 4. Grantor Remains Liable. Each Grantor hereby agrees that, anything herein to the contrary notwithstanding, such Grantor shall assume full and complete responsibility for the prosecution, defense, enforcement or any other necessary or desirable actions in connection with their Intellectual Property subject to a security interest hereunder.

Section 5. Counterparts. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Signature pages may be detached from multiple separate counterparts and attached to a single counterpart. Delivery of an executed signature page of this Agreement by facsimile transmission or electronic transmission shall be as effective as delivery of a manually executed counterpart hereof.

Section 6. Governing Law. This Agreement and the rights and obligations of the parties hereto shall be governed by, and construed and interpreted in accordance with, the law of the State of New York.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF, each Grantor has caused this Intellectual Property Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

AMEDICA CORPORATION, as Grantor

By: /s/ Eric Olson
Name: Eric Olson
Title: CEO

US SPINE, INC., as Grantor

By: /s/ Eric Olson
Name: Eric Olson
Title: CEO

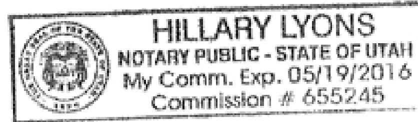
[SIGNATURE PAGE TO INTELLECTUAL PROPERTY SECURITY AGREEMENT]

ACKNOWLEDGMENT OF GRANTOR

State of Utah)
) ss.
County of Salt Lake)

On this 14 day of December , 2012 before me personally appeared Eric Olson, proved to me on the basis of satisfactory evidence to be the person who executed the foregoing instrument on behalf of Amedica Corporation, who being by me duly sworn did depose and say that he is an authorized officer of said corporation, that the said instrument was signed on behalf of said corporation as authorized by its Board of Directors and that he acknowledged said instrument to be the free act and deed of said corporation.

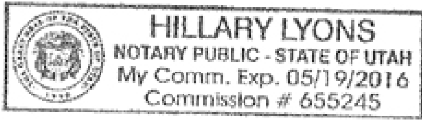
/s/ Hillary Lyons
Notary Public



State of Utah)
) ss.
County of Salt Lake)

On this 14 day of December , 2012 before me personally appeared Eric Olson, proved to me on the basis of satisfactory evidence to be the person who executed the foregoing instrument on behalf of US Spine, Inc., who being by me duly sworn did depose and say that he is an authorized officer of said corporation, that the said instrument was signed on behalf of said corporation as authorized by its Board of Directors and that he acknowledged said instrument to be the free act and deed of said corporation.

/s/ Hillary Lyons
Notary Public



[SIGNATURE PAGE TO INTELLECTUAL PROPERTY SECURITY AGREEMENT]

ACCEPTED AND AGREED
as of the date first above written:

GENERAL ELECTRIC CAPITAL CORPORATION
as Agent

By: /s/ Peter Gibson
Name: Peter Gibson
Title: Duly Authorized Signatory

[SIGNATURE PAGE TO INTELLECTUAL PROPERTY SECURITY AGREEMENT]

Exhibit 10.10

CENTREPOINTE BUSINESS PARK

LEASE AGREEMENT

NET

between

CENTREPOINTE PROPERTIES, LLC

as “Landlord”

and

AMEDICA CORPORATION

as “Tenant”

DATED: April 21, 2009

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EXHIBIT B-4	Landlord Production Area Improvements Plan
EXHIBIT B-5	Tenant Production Area Improvements Plan
EXHIBIT C	Rules and Regulations
ATTACHMENT A	Acknowledgment of Actual Term Commencement Date, Actual Termination Date, Actual RSF of Premises, and Actual Base Rental Amounts

BASIC LEASE INFORMATION
NET LEASE

Lease Date:	April 21, 2009
Tenant:	AMEDICA CORPOPORATION, a Delaware corporation
Tenant's Notice Address:	Attn: Reyn Gallacher 1885 West 2100 South Salt Lake City, Utah 84119
Landlord:	CENTREPOINTE PROPERTIES, LLC, a Utah limited liability company
Landlord's Notice Address:	Attn: Corey Brand 3115 Lion Lane, Suite 300 Salt Lake City, Utah 84121
Premises:	All of the leasable space in that certain building identified as Building B and located at 1885 West 2100 South, Salt Lake City, Utah, (the "Building"), comprising a total of approximately 54,428 rentable square feet ("RSF"). The Premises is shown in Exhibit A.
Project Description:	Collectively, the Premises, the Building, the Common Areas (as defined in Paragraph 1, below), and the approximate twelve and one-half (12 1/2) acres of land upon which they are located, along with the buildings and other improvements thereon (the "Project"). The Project is shown in Exhibit A.
Permitted Use:	General office use and manufacturing, storage and distribution of Tenant's consumer products for medical care.
Parking Density:	Three (3) spaces for each 1,000 square feet of occupiable space.
Delivery Date:	Estimated to be July 1, 2009 (subject to Paragraph 2)
Term Commencement Date:	Estimated to be August 1, 2009 (subject to Paragraph 2)
Length of Term:	Ten (10) years and five (5) months.
Extension Options:	Two (2) five (5) year renewal options.

Base Rent:

Months of Lease:	Base Rent Per Month*:
1-5	$ 26,080.00
6-17	$ 56,695.83
18-29	$ 63,499.33
30-41	$ 65,767.17
42-53	$ 68,035.00
54-65	$ 70,302.83
66-77	$ 72,570.67
78-89	$ 74,838.50
90-101	$ 77,106.33
102-113	$ 79,374.17
114-125	$ 81,642.00

* Subject to proration and other terms of Paragraph 6, below, the Base Rent set forth in this schedule is payable on the first day of each month commencing on the Term Commencement Date.

Security Deposit: $135,000.00

Tenant's Proportionate Share: Fifty percent (50%) as determined by prorata RSF of Premises as compared to the total RSF of the Project (provided that Tenant's Proportionate Share is subject to change as the total RSF of the Project from time to time changes).

The foregoing information may be adjusted pursuant to Paragraph 36.5, below.

The foregoing Basic Lease Information is incorporated into and made a part of this Lease. Each reference in this Lease to any of the Basic Lease Information shall mean the respective information above and shall be construed to incorporate all of the terms provided under the particular Lease paragraph pertaining to such information. In the event of any conflict between the Basic Lease Information and the Lease, the latter shall control.

LEASE

THIS LEASE AGREEMENT (the "Lease") is made as of the 21st day of April, 2009 (the "Lease Date"), by and between CENTREPOINTE PROPERTIES, LLC, a Utah limited liability company (hereinafter called "Landlord"), and AMEDICA CORPORATION, a Delaware corporation (hereinafter called "Tenant").

1. Premises; Roof Access; Common Areas; Personal Property.

1.1 Premises. Landlord leases to Tenant and Tenant leases from Landlord, upon the terms and conditions hereinafter set forth, the property described as follows: (a) the land immediately surrounding the Building as outlined on Exhibit A (the "Land"): (b) the Building situated on the Land, comprising approximately 54,428 RSF (including 27,214 RSF of office area [the "Office Area"] and approximately 27,214 RSF of production area [the "Production Area"] within the Building), as outlined on Exhibit A and described in the Basic Lease Information, including, without limitation all fixtures, apparatus, equipment and appliances owned by Landlord and used in the operation thereof as improvements (including without limitation Landlord's heating and air conditioning systems and other building systems used to provide utility services, heating, air conditioning and ventilation, life safety, or other services thereof), and any and all structures, fixtures, fences, paving, grading and other site improvements located upon or attached to the Land or the improvements located thereon, subject to subparagraph 1.7, below (such Building, other improvements and items of property referenced in subparagraph (b) are sometimes collectively referred to as the "Improvements." and the Land and the Improvements are sometimes collectively referred to as the "Premises"), together with the nonexclusive use of Common Area (as defined in Paragraph 1.2, below) as hereinafter specified, but shall not include rights to the exterior walls or utility raceways of the Building or other buildings in the Project. The RSF of the Building shall be measured from the outside walls of the Building and shall include recessed areas, walkways and entries. The RSF of the Building shall be subject to final measurement and verification by Landlord's architect and, in the event of a variation from the approximation of RSF set forth above, Landlord and Tenant shall amend this Lease accordingly, amending each provision that is based on RSF, including without limitation the Base Rent and Tenant's Proportionate Share.

1.2 Roof Access. Subject to the terms and conditions of this Lease and all applicable laws, rules and regulations, Landlord acknowledges and agrees that Tenant will necessarily require both access to and use of the roof space of the Building ("Roof") for the limited purpose of performing Tenant's repair and maintenance obligations under Paragraph 11, below, and installing that certain equipment which Tenant reasonably requires in order to conduct its business on the Premises, which equipment and installation are subject to Landlord's advance, written consent, which consent shall not be unreasonably withheld. In any case, Tenant's access to and use of the Roof shall not affect the functionality or structural integrity of the Roof or any mechanical and/or operating systems of the Premises or the Project.

1.3 Common Areas - Definition. The term "Common Areas" is defined as all areas and facilities outside the Premises and within the exterior boundary line of the Project for the general nonexclusive use of Landlord, Tenant and other tenants of the Project and their respective employees, suppliers, shippers, customers, contractors and invitees, including without limitation parking areas, loading and unloading areas, trash areas, roadways, sidewalks, walkways, parkways, driveways and landscaped areas.

1.4 Common Areas - Tenant's Rights. Landlord hereby grants to Tenant, for the benefit of Tenant and its employees, suppliers, shippers, contractors, customers and invitees, during the term of this Lease, the non-exclusive right to use, in common with others entitled to such use, the Common Areas as they exist from time to time, subject to any rights, powers, and privileges reserved by Landlord under the terms hereof or under the terms of any rules and regulations or restrictions governing

the use of the Project. Under no circumstances shall the right herein granted to use the Common Areas be deemed to include the right to store any property, temporarily or permanently, in the Common Areas. Any such storage shall be permitted only by the prior written consent of Landlord or Landlord's designated agent, which consent may be revoked at any time. In the event that any unauthorized storage shall occur, then Landlord shall have the right, without notice and in addition to such other rights and remedies that it may have, to remove the property and charge the cost of such removal to Tenant, which cost shall be immediately payable upon demand as additional rent.

1.5 Common Areas - Rules and Regulations. Landlord or such other person(s) as Landlord may appoint shall have the exclusive control and management of the Common Areas and shall have the right, from time to time, to establish, modify, amend and enforce reasonable, non-discriminatory Rules and Regulations with respect thereto in accordance with Paragraph 5. Tenant agrees to abide by and conform to all such Rules and Regulations, and to cause its employees, suppliers, shippers, customers, contractors and invitees to so abide and conform. Landlord shall not be responsible to Tenant for the non- compliance with said rules and regulations by other tenants of the Project; provided, however, that Landlord shall use good faith efforts to uniformly enforce the rules and regulations specified in Exhibit C against all other tenants of the Project.

1.6 Common Areas - Changes. Landlord shall have the right, in Landlord's sole discretion, from time to time:

(a) To make changes to the Common Areas, including, without limitation, changes in the location, size, shape and number of driveways, entrances, parking spaces, parking areas, loading and unloading areas, ingress, egress, direction of traffic, landscaped areas, walkways and utility raceways;

(b) To close temporarily any of the Common Areas for maintenance purposes so long as reasonable access to the Premises remains available;

(c) To designate other land outside the boundaries of the Project to be a part of the Common Areas;

(d) To add additional buildings and improvements to the Common Areas;

(e) To use the Common Areas while engaged in making additional improvements, repairs or alterations to the Project, or any portion thereof; and

(f) To do and perform such other acts and make such other changes in, to or with respect to the Common Areas and the Project as Landlord may, in its sole discretion, deem to be appropriate.

(g) Notwithstanding anything contained in this Paragraph 1.6 to the contrary, (i) Landlord shall make no changes to the Common Areas that unreasonably and materially interfere with Tenant's Permitted Use of and access to the Premises, (ii) Tenant shall be notified in advance of any such changes to be made to the Common Areas, and (iii) Tenant shall be afforded the opportunity to (A) reasonably object to such changes pursuant to this subparagraph 1.6 (g), and (B) to work cooperatively with Landlord to reasonably resolve any such unreasonable and material interference with Tenant's Permitted Use of and access to the Premises.

1.7 Personal Property. Subject to the provisions of this Lease, Tenant may place or install on and/or in the Premises such personal property, inventory, furniture, fixtures and equipment as it shall deem desirable for the conduct of Tenant's business therein, subject to the provisions of this Lease and all applicable laws, rules and regulations. Personal property, inventory, furniture, fixtures and equipment placed by Tenant (whether placed prior to or after the commencement of this Lease) and not

nailed or screwed or otherwise fastened to the Premises (as distinguished from those items of furniture, fixtures and equipment which belong to Landlord) (collectively, "FF&E" or "Equipment") shall not become a part of the realty, but shall retain their status as personalty and may be removed by Tenant; provided that Tenant shall, at its sole expense, immediately repair any damage caused by such removal even if caused by any subtenant. Additionally, Landlord and Tenant understand, acknowledge and agree that certain items of Equipment shall retain their status as Tenant's personalty and may be removed by Tenant pursuant to the terms and conditions of this Lease even though such Equipment may be required to be nailed, screwed, or otherwise attached to the Premises based on the manufacturers' specifications of such Equipment, unless (a) the removal of any such Equipment will detrimentally affect the structural integrity of the Building or its systems, or (b) any such Equipment is a part of the Building or its mechanical, plumbing, electrical, heating/ventilation/air conditioning systems.

2. Delivery of Possession and Lease Commencement.

2.1 Delivery Date and Term Commencement Date. The date that Landlord delivers possession of the Premises to Tenant pursuant to Paragraph 2.2, below, shall be deemed the "Delivery Date", which is estimated to be July 1, 2009, subject to delays caused by (A) Tenant, whether caused by Tenant's failure to timely respond to a Landlord request, provided such request is reasonable, Tenant's interference with any of the work to be performed by Landlord, Tenant's request for materials not immediately available, or any other cause related to an act or omission by Tenant; and/or (B) an event of Force Majeure as defined in Section 34 herein. The "Term" (as defined in Paragraph 3.1, below) of this Lease shall commence on the date (the "Term Commencement Date") that is thirty (30) days following the Delivery Date, which is estimated to be August 1, 2009. Landlord and Tenant understand, acknowledge and agree that (1) Tenant shall have a limited right of access to the Premises for the sole purpose of constructing the "Tenant Improvements" (as defined in Paragraph 37.2, below) after the Lease Date; (2) Landlord shall not have any obligation to commence making any "Landlord Production Area Improvements" (as defined in Paragraph 37.2, below) until after the Delivery Date; (3) neither the Landlord Production Area Improvements nor the Tenant Improvements will be substantially complete as of the Term Commencement Date, rather the Landlord Production Area Improvements and the Tenant Improvements are estimated to be substantially complete on December 1, 2009; and (4) in no event shall the Term Commencement Date be delayed by reason of (a) Landlord's construction of the Landlord Production Area Improvements, (b) Landlord's construction of the Landlord Office Area Improvements, or (c) Tenant's construction of the Tenant Improvements.

2.2 Delivery Date - Definition. "Delivery Date" shall mean (A) the substantial completion of the "Building Shell Improvements" (as defined in Paragraph 37.2, below), with lockable exterior doors and exterior windows installed, (B) the substantial completion of the "Landlord Office Area Improvements" (as defined in Paragraph 37.2, below), and (C) certification or verification by the "Prime Contractor" (as defined in Exhibit B), in the Prime Contractor's reasonable judgment, (i) that (A) and (B) have been completed, and (ii) of the date of completion of (A) and (B). In the event of any dispute as to substantial completion of work performed or required to be performed by Landlord, the certificate of the Prime Contractor shall be conclusive. Substantial completion shall have occurred notwithstanding Tenant's submission of a punchlist to Landlord, which Tenant shall submit, if at all, within fifteen (15) business days after substantial completion. Upon Landlord's request, Tenant shall promptly execute and return to Landlord a letter or memorandum setting forth the Delivery Date.

2.3 Acknowledgment of Risk. Tenant understands, acknowledges and agrees that as of the Lease Date the "Landlord Improvements" (as defined in Paragraph 37.2, below) will not be substantially complete and, therefore, Tenant's access to and use of the Premises from and after the Lease Date is subject to the following: (A) prior to the completion of the Landlord Improvements, Tenant shall not unreasonably interfere with, hinder or delay the "Architect" (as defined in Exhibit B hereto) or the Prime Contractor, in the performance of construction of the Landlord Improvements; (B) any such access and use shall be at Tenant's and Tenant's employees', agents', customers', visitors', invitees', licensees',

contractors', assignees' and subtenants' sole risk and Tenant shall bear all risk of loss with regard to any personal property, equipment or other materials or improvements located by Tenant in the Premises; and (C) Landlord shall have no obligation to secure the Premises or safeguard Tenant's personal property.

2.4 Term Commencement Date - Rental Obligations. Tenant shall not be liable for any Rent (as defined in Paragraph 6) for any period prior to the Term Commencement Date (but without affecting any obligations of Tenant under any work letter appended to this Lease).

2.5 Satisfactory Possession. Tenant's entry upon and use of the Premises shall be considered acceptance by Tenant of the Premises in its "as is" condition (subject only to Landlord's and Tenant's respective obligations as otherwise specified in this Lease). Landlord shall nevertheless be obligated to complete, after the date of satisfactory possession, any minor remaining finish work as agreed by the parties, the responsibility of Landlord under this Lease, and as may be specified in attached Exhibit B. SUBJECT TO THE FOREGOING, TENANT REPRESENTS, WARRANTS AND CONFIRMS THAT, BY TENANT'S ENTRY UPON AND USE OF THE PREMISES, TENANT SHALL HAVE CONDUCTED SUCH INVESTIGATIONS, PURSUANT TO THE REQUIREMENTS, INCLUDING WITHOUT LIMITATION THE TIME ALLOWANCES FOR SUCH INVESTIGATIONS, OF SECTION 4.3 WITH RESPECT TO THE PREMISES AND THE PROPERTY OF WHICH THE PREMISES ARE A PART AS TENANT SHALL DEEM ADVISABLE, AND SHALL HAVE SATISFIED ITSELF WITH RESPECT TO THE PREMISES AND THE PROJECT, AND THE TRANSACTIONS CONTEMPLATED BY THIS LEASE. ACCORDINGLY, EXCEPT AS EXPRESSLY PROVIDED IN THIS LEASE, AS OF THE DATE TENANT SHALL ENTER UPON AND USE THE PREMISES, TENANT SHALL ACCEPT THE PREMISES AND THE PROJECT IN THE CONDITION IN WHICH THEY EXIST ON SUCH DATE (THAT IS, "AS IS" AND "WHERE IS", WITH ALL FAULTS), AND WITHOUT ANY OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, IN FACT OR BY LAW.

3. Term. The initial term of this Lease (the "Initial Term") shall be approximately ten (10) years and five (5) months, commencing on the Term Commencement Date. The Initial Term shall expire on the last day of the 125th month from and after the Term Commencement Date (the "Termination Date"), unless (a) extended pursuant to subparagraph 3.1, below, or (b) earlier terminated pursuant to the provisions of this Lease. Upon Landlord's request, Tenant shall promptly execute and return to Landlord an Attachment A in the form attached hereto, confirming, among other things, the Term Commencement Date and the Termination Date.

3.1 Renewal Options. Provided that Tenant is not in default, and shall not have defaulted, under any of the provisions of the Lease, Tenant shall have two (2) consecutive options to extend the Initial Term of this Lease for a period of five (5) years each (individually, an "Extension Option." and, collectively, the "Extension Options"), commencing as of the day immediately following the Termination Date, or, if an Extension Option has been exercised, the termination date of any (in any case, individually, a "Renewal Term." and, collectively, the "Renewal Terms;" references in this Lease to the "Term" shall be deemed to include the Initial Term and the Renewal Terms, as applicable). The annual Rent during each Renewal Term will be as set forth in subparagraph 6.3, below. Exercise of an Extension Option will be by delivery to Landlord of written notice of exercise not later than 180 days, and no more than twelve (12) months, prior to expiration of the then current term.

4. Use.

4.1 General. Tenant shall use the Premises for the permitted use specified in the Basic Lease Information ("Permitted Use") and for no other use or purpose. Tenant shall control Tenant's employees, agents, customers, visitors, invitees, licensees, contractors, assignees and subtenants (collectively, "Tenant's Parties") in such a manner that Tenant and Tenant's Parties cumulatively do not exceed the parking density specified in the Basic Lease Information (the "Parking Density") at any time. Tenant and Tenant's Parties shall have the nonexclusive right to use the Common Areas in common with any other parties occupying the Project, subject to such rules and regulations as Landlord may from time to time prescribe.

4.2 Limitations. Tenant shall not permit any odors, smoke, dust, gas, substances, noise or vibrations to emanate from the Premises or any other portion of the Project which are in violation of any applicable law, ordinance, regulation, or statute as a result of Tenant's or any Tenant's Party's use thereof, nor take any action which would constitute a nuisance or would disturb, obstruct or endanger any other tenants or occupants of the Project or interfere with their use of their respective premises or Common Areas. Storage outside the Premises of materials, vehicles or any other items is prohibited. Tenant shall not use or allow the Premises to be used for any immoral, improper or unlawful purpose, nor shall Tenant cause or maintain or permit any nuisance in, on or about the Premises. Tenant shall not commit or suffer the commission of any waste in, on or about the Premises. Tenant shall not allow any sales by auction on the Premises, or place any loads upon the floors, walls or ceilings which endanger the structure, or place any harmful substances in the drainage system of the Project. No waste, materials or refuse shall be dumped upon or permitted to remain outside the Premises except in trash containers placed inside exterior enclosures designated for that purpose by Landlord. Landlord shall not be responsible to Tenant for the non-compliance by any other tenant or occupant of the Project with any of the above-referenced rules or any other terms or provisions of such tenant's or occupant's lease or other contract; provided, however, that Landlord shall use good faith efforts to uniformly enforce the rules and regulations specified in Exhibit C against all other tenants of the Project.

4.3 Compliance with Regulations. By entering the Premises, Tenant accepts the Premises in the condition existing as of the date of such entry, subject only to conditions and defects relating to the Landlord Improvements that are not discoverable from a reasonable inspection, however, Landlord shall have no obligation to repair any such condition or defect unless Landlord receives written notice of the same within six (6) months after the Term Commencement Date. Notwithstanding the foregoing, Tenant shall have the benefit of all warranties received by Landlord from Landlord's contractors, and Landlord shall assign such warranties to Tenant, such assignment to be in effect during the term of this Lease. Tenant shall at its sole cost and expense strictly comply with all existing or future applicable municipal, state and federal and other governmental statutes, rules, requirements, regulations, laws and ordinances, including zoning ordinances and regulations, and covenants, easements and restrictions of record governing and relating to the use, occupancy or possession of the Premises, to Tenant's use of the Common Areas, or to the use, storage, generation or disposal of Hazardous Materials (hereinafter defined) (collectively, "Regulations"). In particular, Tenant will comply with any Regulations promulgated by the local governing authority that may be applicable to a user of the real property described herein. Tenant shall at its sole cost and expense obtain any and all licenses or permits necessary for Tenant's use of the Premises. Tenant shall at its sole cost and expense promptly comply with the requirements of any board of fire underwriters or other similar body now or hereafter constituted. Tenant shall not do or permit anything to be done in, on, under or about the Premises or the Project or bring or keep anything which will in any way increase the rate of any insurance upon the Premises or the Project or upon any contents therein or cause a cancellation of said insurance or otherwise affect said insurance in any manner. Tenant shall indemnify, defend, protect and hold Landlord harmless from and against any loss, cost, expense, damage, attorneys' fees or liability arising out of the failure of Tenant to comply with any Regulation applicable to Tenant. Tenant's obligations pursuant to the foregoing indemnity shall survive the expiration or earlier termination of this Lease.

4.4 Hazardous Materials.

4.4.1 Use of Hazardous Materials. In connection with Tenant's use of the Premises, Tenant shall comply with any and all "Hazardous Materials Laws" (defined below) at all times during the Term. Tenant shall not cause or permit the release, use, generation, treatment, manufacture, storage or disposal on or under the Premises, the Building or the Project, or the transportation to or from the Premises, the Building or the Project, of any "Hazardous Materials" in violation of any Hazardous Materials Laws. The term "Hazardous Materials" means and includes petroleum, asbestos, polychlorinated biphenyls, urea formaldehyde, and any flammable explosives, radioactive materials or hazardous, toxic or dangerous wastes, substances or related materials or any other chemicals, materials or substances, exposure to which is prohibited, limited or regulated by any federal, state, county, regional or local authority, including, but not limited to, hazardous substances as defined in (or for purposes of) the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (42 U.S.C. Section 9601, et seq.); hazardous material as defined in the Hazardous Materials Transportation Act (49 U.S.C. Section 1801, et seq.); hazardous waste as defined in the Resource Conservation and Recovery Act (42 U.S.C. Section 6901, et seq.); and any such substances under any so-called "Superfund" or "Superlien" law, or any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to or imposing liability, standards of conduct or removal or remedial obligations concerning any hazardous or toxic substance or material. The term "Hazardous Materials Laws" means all federal, state and local environmental laws, ordinances and regulations relating to Hazardous Materials and applicable to the activities of Tenant the violation of which would have a material adverse impact upon the Project or any portion thereof or require any onsite or offsite removal or remediation activities arising from the release or threatened release of Hazardous Materials.

4.4.2 Tenant's Indemnity Obligations. If Tenant breaches the obligations stated in Paragraph 4.4.1 or if Hazardous Materials are released, used, generated, treated, manufactured, stored or disposed of on or under the Premises, the Building or surrounding land after the Term Commencement Date, then Tenant shall at Tenant's cost and expense remove the same, to the extent required to put the Project in compliance with all applicable Hazardous Materials Laws, and Tenant shall indemnify, defend and hold Landlord harmless from and against any and all damage, cost, loss, liability and expense (including reasonable attorneys' fees and consultant's fees) which may be incurred by Landlord by reason of, resulting from, in connection with or arising in any manner whatsoever as a result of the release, use, generation, treatment, manufacture, storage or disposal of any such Hazardous Materials on or from the Premises, the Building or surrounding land in violation of such Hazardous Materials Laws. Tenant's indemnity obligations shall include, but not be limited to, all liabilities, losses, claims, demands, penalties, fines, settlements, damages, response, remedial, closure or inspection costs, and any expenses (including, without limit, attorneys' and consultant's fees, investigation expenses, and laboratory costs) of whatever kind or nature which are incurred by Landlord, and any personal injuries (including death) or property damages, real or personal, any violations of law or of orders, regulations, requirements, or demands of governmental authorities, and any lawsuit brought or threatened, or government order arising out of or in any way related to the existence of Hazardous Materials on the Premises, the Building or surrounding land as of the Term Commencement Date or the release, use, generation, treatment, manufacture, storage or disposal of Hazardous Materials on or onto the Premises, the Building or surrounding land after the Term Commencement Date, including (but not limited to) removal and remediation costs and third-party claims. Notwithstanding anything contained in this Lease to the contrary, all monies or other assistance made available to Landlord, the Premises or Tenant by any governmental, quasi-governmental or other person or entity for use in complying with Hazardous Materials Laws applicable to the Premises (including such money or resources that may be available for investigation and/or remediation of releases or petroleum products upon or from the Premises) shall be made available to Tenant and shall be used and exhausted for the purposes of accomplishing such compliance with Hazardous Materials Laws prior to any required expenditure by Tenant. Or, if Tenant accomplishes such compliance at Tenant's expense, Tenant shall be entitled to reimbursement and

recovery of such money and resources as is necessary to fully reimburse and compensate Tenant for amounts expended and costs incurred by Tenant in accomplishing such compliance with Hazardous Materials Laws.

4.4.3 Notice Concerning Environmental Matter. Landlord agrees to give prompt written notice to Tenant with respect to any suit or claim initiated or threatened to be initiated against Landlord which Landlord has reason to believe is likely to give rise to a claim for indemnity hereunder, and Tenant shall promptly proceed to provide an appropriate defense, compromise, or settlement of such suit or claim at its sole expense.

4.4.4 Remediation by Tenant and Survival. Without limiting the foregoing, if Tenant or its agents, contractors, guests, invitees or subtenants cause or permit Hazardous Materials to be released, used, generated, manufactured, treated, stored or disposed of on or from the Premises, the Building or the Project during the term of this Lease in violation of any Hazardous Material Laws, or if Hazardous Materials are transported from the Premises, the Building or surrounding land in violation of any Hazardous Material Laws, Tenant shall promptly take all actions at its sole expense as are required by any environmental agency having jurisdiction to comply with all laws and regulations governing such release, use, generation, manufacture, storage, treatment or disposal of such Hazardous Material and/or to remediate the conditions created by such Hazardous Materials; provided, that except in an emergency, Landlord's approval of such actions shall first be obtained, which approval shall not be unreasonably withheld. The indemnities of Tenant provided in this Paragraph 4.4 shall survive the expiration or earlier termination of this Lease and the assignment by Tenant of the leasehold estate created hereby. Notwithstanding anything contained in this Lease to the contrary, all monies or other assistance made available to Landlord, the Premises or Tenant by any governmental, quasi-governmental or other person or entity for use in complying with Hazardous Materials Laws applicable to the Premises (including such money or resources that may be available for investigation and/or remediation of releases or petroleum products upon or from the Premises) shall be made available to Tenant and shall be used and exhausted for the purposes of accomplishing such compliance with Hazardous Materials Laws prior to any required expenditure by Tenant. Or, if Tenant accomplishes such compliance at Tenant's expense, Tenant shall be entitled to reimbursement and recovery of such money and resources as is necessary to fully reimburse and compensate Tenant for amounts expended and costs incurred by Tenant in accomplishing such compliance with Hazardous Materials Laws.

4.4.5 Disclosure of Environmental Matter. Within thirty (30) days after receipt of written notice thereof, Tenant shall advise Landlord and Landlord shall advise Tenant, as the case may be, in writing of (i) any and all notices of enforcement or other governmental or regulatory actions pursuant to which investigation and/or remediation of Hazardous Materials on the Premises, the Building or surrounding land will be required, and (ii) all written claims made by any third party against Tenant or Landlord, as the case may be, or the Premises, the Building or surrounding land relating to damage, contribution, cost recovery, compensation, loss or injury resulting from Hazardous Materials on or from the Premises, the Building or surrounding land.

4.4.6 Inspection. Landlord and its agents shall have the right, but not the duty, at Landlord's sole cost and expense to conduct reasonable inspections (both in time and frequency) of the Premises, the Building and surrounding land, to determine whether Tenant (or its subtenants) are complying with this Paragraph 4.4. Such inspections shall be performed during business hours, upon reasonable prior notice to Tenant, and shall be accomplished in a manner reasonably calculated not to disturb existing business operations of Tenant or any subtenant. Landlord shall use its best efforts to minimize interference with the business of Tenant and subtenants being conducted on the Premises but shall not be liable for any reasonable interference caused thereby.

If, as a result of any such inspection, Landlord determines, in its reasonable judgment, that Tenant or its subtenants are not in compliance with this Paragraph 4.4, Landlord shall promptly notify Tenant in writing of the event or situation which gives rise to Tenant's or a subtenant's violation of

such Paragraph. Unless Tenant's or a subtenant's violation of this Paragraph 4.4 creates an emergency situation, in which event Tenant shall immediately take such action as may be required by the nature of such situation to remedy the same and if Tenant fails to do so, Landlord shall have the right to enter upon the Premises, the Building and surrounding land and to take such action as Landlord deems appropriate in its reasonable judgment to remedy or correct such emergency situation, Tenant shall within sixty (60) days after the receipt of notice of such violation from Landlord (provided that Tenant will, in any event proceed diligently), submit to Landlord a written plan setting forth a general description of the action that Tenant proposes to take with respect thereto.

The plan for remediation of contamination by Hazardous Materials shall be subject to the Landlord's written approval, which approval shall not be unreasonably withheld or delayed. Landlord shall notify Tenant in writing of its approval or disapproval of the plan within fifteen (15) days after receipt thereof by Landlord. If Landlord disapproves the plan, Landlord's notice to Tenant of such disapproval shall include a detailed explanation of the reasons thereof. Landlord shall have no right to disapprove any plan if such plan is approved by or is otherwise satisfactory to all environmental agencies having and exercising jurisdiction with respect to the matters which are subject to the plan; however, Tenant shall nonetheless provide a copy of such plan (and all correspondence by and between Tenant and such environmental agencies related to the subject matter of the plan) to Landlord. Within thirty (30) days after receipt of such notice of disapproval; Tenant shall submit to Landlord a revised plan that remedies the defects reasonably identified by Landlord as reasons for Landlord's disapproval of the initial plan. If Tenant fails to submit a revised plan to Landlord within such 30-day period, such failure shall, at Landlord's option and upon notice to Tenant, constitute an "event of default" hereunder. In the event Landlord fails to give notice to Tenant of its approval or disapproval of Tenant's plan or revised plan within fifteen (15) days after the receipt thereof, the plan, or revised plan as the case may be, shall be deemed approved.

Once any such plan is approved in writing or deemed approved by Landlord, Tenant shall promptly commence all action necessary to comply with all requirements and conditions imposed by all environmental agencies having and exercising jurisdiction, and shall diligently and continuously pursue each action to completion in accordance with the terms thereof; provided that Tenant may commence such actions sooner or on such other timetable if required to do so by any such agency. If Landlord's inspections of the Premises, the Building or surrounding land reveal a violation by Tenant or a subtenant of the provisions of this Paragraph 4.4 which violation Landlord reasonably believes may have caused the Project or any part thereof to have become contaminated by Hazardous Materials, Landlord shall have the right to initiate testing (including soil and groundwater) of that Premises, the Building and surrounding land to determine whether, or the extent to which such violation has in fact caused the contamination of such Project or portion thereof by Hazardous Materials. If such tests reveal that such Project or portion thereof is contaminated by Hazardous Materials, Landlord shall immediately deliver a copy of the test results to Tenant. Tenant shall thereafter comply with the terms and provisions of the preceding paragraph with respect to formulating a plan to remediate such contamination and shall reimburse Landlord for all reasonable costs incurred in connection with such testing. Any entry, testing or work which Landlord elects to perform pursuant to this Paragraph 4.4 shall, to the extent commercially reasonable, be performed in a manner reasonably designed to minimize interference with the business operations of Tenant and its Subtenants on the Premises.

4.4.7 Governing Provisions for Environmental Matters. Notwithstanding any other provision of this Lease, this Paragraph 4.4 shall supersede and take precedence over all other provisions of this Lease regarding environmental matters including, but not limited to, the general indemnification of Landlord by Tenant.

5. Rules and Regulations. Tenant shall faithfully observe and comply with any rules and regulations and any reasonable modifications or additions thereto that may be adopted by Landlord as set forth, and as may be amended from time to time as specified in Exhibit C, provided any modifications or additions are made available to Tenant in writing. Tenant shall

cause Tenant's Parties to comply with such rules and regulations. Landlord shall not be responsible to Tenant for the non-compliance by any other tenant or occupant of the Project with any of such rules and regulations, any other tenant's or occupant's lease or any Regulations; provided, however, that Landlord shall use good faith efforts to uniformly enforce the rules and regulations specified in Exhibit C against all other tenants of the Project.

6. Rent.

6.1 Base Rent. Commencing upon the Term Commencement Date, Tenant shall pay to Landlord and Landlord shall receive, without notice or demand throughout the Term, Base Rent as specified in the Basic Lease Information, payable in monthly installments in advance on or before the first day of each calendar month, in lawful money of the United States, without deduction or offset whatsoever except as otherwise expressly permitted by this Lease, at the Landlord's Notice Address specified in the Basic Lease Information or to such other place as Landlord may from time to time designate in writing. Base Rent for the first full month of the Term shall be paid by Tenant on the Term Commencement Date. If the obligation for payment of Base Rent commences on other than the first day of a month, then Base Rent shall be prorated and the prorated installment shall be paid on the first day of the calendar month next succeeding the Term Commencement Date.

6.2 Additional Rent. All monies other than Base Rent required to be paid by Tenant hereunder, including, but not limited to, Tenant's Proportionate Share of Operating Expenses, as specified in Paragraph 7 of this Lease, the interest and late charge described in Paragraphs 26.3 and 26.4, and any monies spent by Landlord pursuant to Paragraph 29 or Exhibit B, shall be considered additional rent ("Additional Rent"). Additional Rent shall be payable in monthly installments in advance on or before the first day of each calendar month, in lawful money of the United States, without deduction or offset whatsoever except as otherwise expressly permitted by this Lease, at the Landlord's Notice Address specified in the Basic Lease Information or to such other place as Landlord may from time to time designate in writing. Base Rent and Additional Rent are referred to together herein as "Rent".

6.3 Rent during Renewal Terms

6.3.1 Base Rent during Renewal Terms. During a Renewal Term, unless adjusted otherwise at the time of renewal by written agreement of the parties, the annual Base Rent (which Tenant shall pay to Landlord in advance in equal monthly installments on the first (1st) day of each calendar month during such Renewal Term) during the first year of such Renewal Term shall be arrived at by determining the fair market rental value of the Premises based on a comparative analysis of properties comparable to the Premises on or immediately prior to the Initial Term or any Renewal Term.

6.3.2 Additional Rent during Renewal Terms. During a Renewal Term, unless adjusted otherwise at the time of renewal by written agreement of the parties, Tenant shall pay Additional Rent to Landlord in advance in equal monthly installments on the first (1st) day of each calendar month during such Renewal Term.

7. <u>Operating Expenses</u>.

7.1 <u>Operating Expenses</u>. In addition to the Base Rent required to be paid hereunder, Tenant shall pay as Additional Rent, Tenant's Proportionate Share, as defined in the Basic Lease Information, of Operating Expenses (defined below) in the manner set forth below. "<u>Operating Expenses</u>" shall mean all expenses and costs of every kind and nature which Landlord shall pay or become obligated to pay, because of or in connection with the ownership, management, maintenance, repair, preservation, replacement and operation of the Project and its supporting facilities (as determined in a reasonable manner) other than those expenses and costs which are specifically attributable to a tenant of the Project (inclusive of Tenant) or which are expressly made the financial responsibility of Landlord pursuant to this Lease. Operating Expenses shall include, but are not limited to, the following:

7.1.1 <u>Taxes</u>. All real property taxes and assessments, sales taxes, personal property taxes, business or license taxes or fees, gross receipts taxes, service payments in lieu of such taxes or fees, annual or periodic license or use fees, excises, transit charges, and other impositions, general and special, ordinary and extraordinary, unforeseen as well as foreseen, of any kind (including fees "in-lieu" of any such tax or assessment) which are now or hereafter assessed, levied, charged, confirmed, or imposed by any public authority upon the Project, its operations or the Rent (or any portion or component thereof), or any tax, assessment or fee imposed in substitution, partially or totally, of any of the above. Operating Expenses shall also include any taxes, assessments, or other fees or impositions with respect to the development, leasing, management, maintenance, alteration, repair, use or occupancy by Tenant of the Premises or any portion thereof, or upon this transaction or any document creating or transferring an interest in the Premises. In the event that it shall not be lawful for Tenant to reimburse Landlord for all or any part of such taxes, the monthly rental payable to Landlord under this Lease shall be revised to net Landlord the same net rental after imposition of any such taxes by Landlord as would have been payable to Landlord prior to the payment of any such taxes. Tenant shall have the right to contest any tax assessments at Tenant's expense, provided that there shall be no delinquency payment of such taxes. If such taxes are reduced, Tenant shall receive its prorata share of any refunds received by Landlord.

7.1.2 <u>Insurance</u>. All insurance premiums and costs, including, but not limited to, any deductible amounts, premiums and other costs of insurance incurred by Landlord, including for the insurance coverage set forth in Paragraph 8.1 herein.

7.1.3 <u>Common Area Maintenance</u>.

(a) Operation, repairs, replacements, and general maintenance of and for the Common Areas and certain other elements of the Project, including, but not limited to, common landscaped areas, parking and service areas, driveways, truck staging areas, rail spur areas, sanitary and storm sewer lines, utility services, electric and telephone equipment and wiring servicing, exterior lighting, pest extermination, roofs, structural elements of the buildings and exterior painting of the buildings, and any other items or areas which affect the operation or exterior appearance of the Project, which determination shall be at Landlord's reasonable discretion, except for: those items expressly made the financial responsibility of Landlord pursuant to Paragraph 10 hereof; and those items to the extent paid for by the proceeds of insurance.

(a) Repairs, replacements, and general maintenance shall include the cost of any capital improvements made to, or capital assets acquired for, the Common Areas and certain other elements of the Project, including the replacement of the roofs, structural elements of the buildings, and all present or future repair work that are reasonably necessary for the health and safety of the occupants of the Project, or are required under any governmental law or regulation, such costs or allocable portions thereof to be amortized over the useful life thereof as determined according to generally accepted accounting principles together with interest on the unamortized balance at the "prime rate" charged by Wells Fargo Bank, N.A. (Salt Lake City) or its successor at the time such improvements or capital assets are constructed or acquired, plus two (2) percentage points, but in no event more than the maximum rate permitted by law.

(b) Payment under or for any easement, license, permit, operating agreement, declaration, restrictive covenant or instrument relating to the Project.

(c) All expenses related to services and costs of supplies and equipment used in maintaining the Project, the equipment therein and the Project's sidewalks, driveways, parking and service areas, including, without limitation, expenses related to service agreements regarding security and fire and other alarm systems, janitorial services to the extent not addressed in Paragraph 11 hereof, window cleaning, elevator maintenance, building exterior maintenance, landscaping and expenses related to the administration, management and operation of the Project, including without limitation salaries, wages and benefits as they relate directly to the operation, maintenance, repair and replacement of the Project or portions thereof. Common Area maintenance shall not include:

1. Depreciation of the buildings or other improvements.
2. Any items for which Landlord is reimbursed by insurance proceeds.
3. Any interest or principal payments on any loans secured by the Project.
4. Costs associated with the investigation and/or remediation of Hazardous Materials on or about the Premises except as provided in Paragraph 4.4.
5. Marketing costs, including leasing commissions and attorneys' fees, in connection with the negotiation and preparation of leases, unless such costs are incurred as a result of Tenant's default under this Lease.
6. Landlord's general corporate overhead and general administrative expenses.
7. Any fines, costs, penalties or interest resulting from Landlord's gross negligence of willful misconduct, or from that of Landlord's agents, contractors or employees.

7.1.4 Utilities. The cost of supplying any utilities which benefit all or a portion of the Project to the extent not addressed in Paragraph 15 hereof.

The above enumeration of services and facilities shall not be deemed to impose an obligation on Landlord to make available or provide such services or facilities except to the extent Landlord has specifically agreed elsewhere in this Lease to make the same available or provide the same. Without limiting the generality of the foregoing, Tenant acknowledges and agrees that it shall be responsible for providing adequate security for its use of the Premises and that Landlord shall have no obligation or liability with respect thereto, except to the extent Landlord has specifically agreed elsewhere in this Lease to provide the same.

7.2 Management Fee. Tenant shall pay as Additional Rent a "Management and Accounting Cost Recovery Fee" equal to three percent (3%) of the sum of Base Rent; provided that, as and to the extent Tenant is acting as the manager of the Project pursuant to a separate management agreement between Landlord and Tenant (the "Management Agreement"), the Management and Accounting Cost Recovery Fee payable by Tenant to Landlord shall be reduced to one percent (1%) of the sum of Base Rent. A default under the Management Agreement shall not be deemed an "event of default" under this Lease, and a default under this Lease shall not be deemed an "event of default" under the Management Agreement.

7.3 Payment of Estimated Operating Expenses. "Estimated Operating Expenses" for any particular year shall mean

Landlord's estimate of the Operating Expenses for such fiscal year made with respect to such fiscal year as hereinafter provided. Landlord shall have the right from time to time to revise its fiscal year and interim accounting periods so long as the periods as so revised are reconciled with prior periods in a reasonable manner. During the last month of each fiscal year during the Term, or as soon thereafter as practicable, Landlord shall give Tenant written notice of the Estimated Operating Expenses for the ensuing fiscal year. Tenant shall pay Tenant's Proportionate Share of the Estimated Operating Expenses with installments of Base Rent for the fiscal year to which the Estimated Operating Expenses applies in monthly installments on the first day of each calendar month during such year, in advance. If at any time during the course of the fiscal year, Landlord determines that Operating Expenses are projected to vary from the then Estimated Operating Expenses by more than ten percent (10%), Landlord may, by written notice to Tenant, revise the Estimated Operating Expenses for the balance of such fiscal year, and Tenant's monthly installments for the remainder of such year shall be adjusted so that by the end of such fiscal year Tenant has paid to Landlord Tenant's Proportionate Share of the revised Estimated Operating Expenses for such year.

7.4 Computation of Operating Expense Adjustment. "Operating Expense Adjustment" shall mean the difference between Estimated Operating Expenses and actual Operating Expenses for any fiscal year determined as hereinafter provided. Within one hundred twenty (120) days after the end of each fiscal year or as soon thereafter as practicable, Landlord shall deliver to Tenant a statement of actual Operating Expenses for the fiscal year just ended, accompanied by a computation of Operating Expense Adjustment. If such statement shows that Tenant's payment based upon Estimated Operating Expenses is less than Tenant's Proportionate Share of Operating Expenses, then Tenant shall pay to Landlord the difference within thirty (30) days after receipt of such statement. If such statement shows that Tenant's payments of Estimated Operating Expenses exceed Tenant's Proportionate Share of Operating Expenses, then (provided that Tenant is not in default under this Lease) Landlord shall pay to Tenant the difference within thirty (30) days after delivery of such statement to Tenant. If this Lease has been terminated or the Term hereof has expired prior to the date of such statement, then the Operating Expense Adjustment shall be paid by the appropriate party within thirty (30) days after the date of delivery of the statement. Should this Lease commence or terminate at any time other than the first day of the fiscal year, Tenant's Proportionate Share of the Operating Expense Adjustment shall be prorated by reference to the exact number of calendar days during such fiscal year that this Lease is in effect.

7.5 Net Lease. This shall be a triple net Lease and Base Rent shall be paid to Landlord absolutely net of all reasonable costs and expenses, except as specifically provided to the contrary in this Lease. The provisions for payment of Operating Expenses and the Operating Expense Adjustment are intended to pass on to Tenant and reimburse Landlord for all costs and expenses of the nature described in Paragraph 7.1 incurred in connection with the ownership, management, maintenance, repair, preservation, replacement and operation of the Project as may be determined by Landlord to be necessary to the Project.

7.6 Tenant Audit. If Tenant shall dispute the amount set forth in any statement provided by Landlord under Paragraphs 7.3 or 7.4 above, Tenant shall have the right, not later than ninety (90) days following receipt of such statement and upon the condition that Tenant shall first deposit with Landlord the full amount in dispute, to cause Landlord's books and records with respect to Operating Expenses for such fiscal year to be audited by certified public accountants selected by Tenant and subject to Landlord's reasonable right of approval. The Operating Expense Adjustment shall be appropriately adjusted on the basis of such audit. If such audit discloses a liability for a refund in excess of five percent (5%) of Tenant's Proportionate Share of the Operating Expense Adjustment previously reported, the cost of such audit shall be borne by Landlord; otherwise the cost of such audit shall be paid by Tenant. If Tenant shall not request an audit in accordance with the provisions of this Paragraph 7.6 within forty five (45) days after receipt of Landlord's statement provided pursuant to Paragraph 7.3 or 7.4, such statement shall be final and binding for all purposes hereof.

8. Insurance and Indemnification.

8.1 Landlord's Insurance. All insurance maintained by Landlord shall be for the sole benefit of Landlord and under Landlord's sole control.

8.1.1 Property Insurance. Landlord agrees to maintain property insurance insuring the Project against damage or destruction due to risks including fire, vandalism, and malicious mischief in an amount not less than the replacement cost thereof, in the form and with deductibles and endorsements as selected by Landlord. At its election, Landlord may instead obtain "All Risk" coverage, and may obtain pollution, and/or flood insurance in amounts selected by Landlord, or earthquake insurance, but only if earthquake insurance is required by Landlord's lender.

8.1.2 Optional Insurance. Landlord, at Landlord's option, may also carry insurance against loss of rent, in an amount equal to the amount of Base Rent and Additional Rent that Landlord could be required to abate to all Project tenants in the event of condemnation or casualty damage for a period of twelve (12) months. Landlord may also carry such other insurance as Landlord may deem prudent or advisable, including, without limitation, liability insurance in such amounts and on such terms as Landlord shall determine. Landlord shall not be obligated to insure any furniture, machinery, goods, inventory or supplies, or other personal property or fixtures which Tenant may keep or maintain in the Premises, or any leasehold improvements, additions or alterations within the Premises.

8.2 Tenant's Insurance.

8.2.1 Property Insurance. Tenant shall procure at Tenant's sole cost and expense and keep in effect from the Lease Date and at all times until the end of the Term, insurance on all personal property and fixtures of Tenant and all improvements, additions or alterations made by or for Tenant to the Premises on an "All Risk" basis, insuring such property for the full replacement value of such property. Tenant shall have no obligation to pay any insurance premiums for earthquake insurance unless such insurance is required by Landlord's lender(s).

8.2.2 Liability Insurance. Tenant shall procure at Tenant's sole cost and expense and keep in effect from the Lease Date and at all times until the end of the Term Commercial General Liability insurance applying to the use and occupancy of the Premises and the Common Areas, and any areas adjacent thereto, and the business operated by Tenant. Such coverage shall have a minimum combined single limit of liability of at least Three Million Dollars ($3,000,000), and a minimum general aggregate limit of Four Million Dollars ($4,000,000). All such policies shall be written to apply to all bodily injury, property damage or loss, personal injury and other covered loss, however occasioned, occurring during the policy term, shall be endorsed to add Landlord and any party holding an interest to which this Lease may be subordinated as an additional insured, and shall provide that such coverage shall be "primary" and non-contributing with any insurance maintained by Landlord, which shall be excess insurance only. Such coverage shall also contain endorsements including employees as additional insureds. All such insurance shall provide for the severability of interests of insureds; and shall be written on an "occurrence" basis, which shall afford coverage for all claims based on acts, omissions, injury and damage, which occurred or arose (or the onset of which occurred or arose) in whole or in part during the policy period.

8.2.3 Worker's Compensation and Employers' Liability Insurance. Tenant shall procure and keep in effect Workers' Compensation Insurance, as required by any Regulation, from the Delivery Date through the end of the Term at Tenant's sole cost and expense, with no less than the limits required by law. Tenant shall also procure and keep in effect Employers' Liability Insurance in amounts not less than One Million Dollars ($1,000,000) each accident for bodily injury by accident; One Million Dollars ($1,000,000) policy limit for bodily injury by disease; and One Million Dollars ($1,000,000) each employee for bodily injury by disease, from the Delivery Date through the end of the Term at Tenant's sole cost and expense.

8.2.4 Commercial Auto Liability Insurance. Tenant shall procure at Tenant's sole cost and expense and keep in effect from the Lease Date and at all times until the end of the Term automobile liability insurance with a combined limit of not less than Three Million Dollars ($3,000,000) for bodily injury and property damage for each accident: Such insurance shall cover liability relating to any auto (including owned, hired and non-owned autos).

8.2.5 General Insurance Requirements. All insurance coverage described in this Paragraph 8.2 shall be endorsed to provide Landlord with thirty (30) days' notice of cancellation or change in terms. All insurance policies required to be carried under this Lease shall be written by companies rated A VII or better in "Best's Insurance Guide" and qualified to do business in the State of Utah. Tenant shall deliver to Landlord on or before the Delivery Date, and thereafter at least thirty (30) days before the expiration dates of the expired policies, a certificate evidencing the same issued by the insurer thereunder; and, in the event Tenant shall fail to procure such insurance, or to deliver such certificates, Landlord may, at Landlord's option and in addition to Landlord's other remedies in the event of a default by Tenant hereunder, procure the same for the account of Tenant, and the cost thereof shall be paid to Landlord as Additional Rent.

8.3 Indemnification. Notwithstanding anything to the contrary contained in this Lease, Landlord and Landlord's partners, directors, officers, shareholders, officers, agents, employees, and representatives (collectively, "Landlord's Parties") shall in no event be liable and Tenant hereby waives all claims against Landlord and Landlord's Parties for any loss, damage, injury or death to or of any person or property (including without limitation personal property) caused by theft, fire, rain or water leakage, or from the breakage, leakage, obstruction or other defects of pipes, fire sprinklers, wires, appliances, plumbing, HVAC or lighting fixtures, electrical or other systems, or by acts of God (including without limitation flood or earthquake), acts of a public enemy, riot, strike, insurrection, war, court order, requisition or order of governmental body or authority or for any damage or inconvenience which may arise through repair, except as expressly otherwise provided in Paragraph 10. In addition, Landlord and Landlord's Parties shall in no event be liable for injury to Tenant's business or any loss of income or profit therefrom or for consequential, punitive, indirect, exemplary or special damages, regardless of Landlord's negligence or misconduct. Tenant shall indemnify, defend by counsel reasonably acceptable to Landlord, protect and hold Landlord and Landlord's Parties harmless from and against any and all claims, liabilities, losses, costs, loss of rents, liens, damages, injuries or expenses, including reasonable attorneys' fees and court costs, arising out of or related to: (1) claims of injury to or death of persons or damage to property occurring or resulting directly or indirectly from the use or occupancy of the Premises by Tenant or Tenant's Parties, or from activities of Tenant or Tenant's Parties; (2) claims arising from work or labor performed, or for materials or supplies furnished to or at the request of Tenant in connection with performance of any work done for the account of Tenant within the Premises; (3) claims arising from any breach or default on the part of Tenant in the performance of any covenant contained in this Lease; and (4) claims arising from the negligence or intentional acts or omissions of Tenant or Tenant's Parties. The foregoing indemnity by Tenant shall not be applicable to claims to the extent arising from the sole negligence or willful misconduct of Landlord. The provisions of this Paragraph shall survive the expiration or earlier termination of this Lease.

Notwithstanding anything contained herein to the contrary, Tenant shall be excused from its obligation of indemnification under this Section 8.3 in the event that Landlord fails to give timely notice of any such indemnification requirement and such failure to give notice prejudices Tenant in its ability to adequately defend same.

9. Waiver of Subrogation. To the extent permitted by law and without affecting the coverage provided by insurance to be maintained hereunder or any other rights or remedies, Landlord and Tenant each waive any right to recover against the other for: (a) damages for injury to or death of persons; (b) damages to property, including personal property; (c) damages to the Premises or any part thereof; and (d) claims arising by reason of the foregoing due to hazards covered by insurance to the extent of proceeds recovered therefrom. This provision is intended to waive fully, any rights and/or claims arising by reason of the foregoing, but only to the extent that any of the foregoing damages and/or claims referred to above are covered, and only to the extent of such coverage, by insurance actually carried by either Landlord or Tenant.

10. Landlord's Repairs and Maintenance. Landlord shall, as a Common Area Operating Expense, replace the Roof (as necessary) and maintain in good repair, reasonable wear and tear excepted, the structural soundness of the foundations and exterior walls of the Building). The term "exterior walls" shall not include windows, glass or plate glass, doors, dock bumpers or dock plates, special store fronts or office entries. Any damage caused by or repairs necessitated by any act of Tenant or Tenant's Parties shall be repaired by Tenant and if Tenant fails to do so, they may be repaired by Landlord at Landlord's option and Tenant's expense following prior notice to Tenant. Tenant shall immediately give Landlord written notice of any defect or need of repairs in such components of the Building after which Landlord shall have a reasonable opportunity and the right to enter the Premises upon notice, except in emergencies where no such notice shall be required, and at all reasonable times to repair same. Landlord's liability with respect to any defects, repairs, or maintenance for which Landlord is responsible under any of the provisions of this Lease shall be limited to the cost of such repairs or maintenance, and there shall be no abatement of rent and no liability of Landlord by reason of any injury to or interference with Tenant's business arising from the making of repairs, alterations or improvements in or to any portion of the Premises or to fixtures, appurtenances or equipment in the Premises, except as provided in Paragraph 24. By taking possession of the Premises, Tenant accepts them as being in good order, condition and repair and the condition in which Landlord is obligated to deliver them, except as otherwise provided in this Lease.

11. Tenant's Repairs and Maintenance. Excluding only Landlord's obligations under Paragraph 10, Tenant shall at all times during the Term at Tenant's expense maintain all parts of the Building in a first-class, good, clean and secure condition, normal wear and tear excepted, and promptly make all necessary repairs and replacements, as determined by Landlord, including but not limited to, the Roof, all windows, glass, doors, walls, including demising walls, and wall finishes, floors and floor covering, heating, ventilating and air conditioning systems, ceiling insulation, truck doors, hardware, dock bumpers, dock plates and levelers, plumbing work and fixtures, downspouts, entries, skylights, smoke hatches, roof vents, electrical and lighting systems, and fire sprinklers, with materials and workmanship of the same character, kind and quality as the original. Tenant shall at Tenant's expense also perform regular removal of trash and debris. Tenant shall, at Tenant's own expense, maintain and service all hot water, heating and air conditioning systems and equipment within or serving the Premises. At the request of Landlord from time to time (and no more than once annually), Tenant, at Tenant's sole cost and expense, shall provide to Landlord written certification or verification from a third-party mechanical engineer that Tenant is satisfactorily performing Tenant's obligations hereunder and that such systems and equipment are in first-class, good, clean and secure condition, normal wear and tear excepted. If in Landlord's reasonable opinion, Tenant has not complied in full with any of the provisions of this Paragraph 11, Landlord shall have the right, upon Tenant's failure to remedy any noncompliance under this Paragraph 11, within thirty (30) days after receipt of any written notice of such noncompliance, to take over all or some of Tenant's obligations hereunder, in which case the Management and Accounting Cost Recovery Fee described in Paragraph 7.2 shall be increased from 1% to 3%, and Tenant shall pay for all the reasonable costs and charges incurred by Landlord as an Operating Expense. Notwithstanding anything to the contrary contained herein, Tenant shall, at its expense, promptly repair any damage to the Project resulting from or caused by any act of Tenant or Tenant's Parties. So long as Tenant occupies the Building, Tenant shall, at its expense, clean, repair, maintain and keep in good condition the Building, excluding only Landlord's obligations under Paragraph 10.

12. Alterations.

12.1 Tenant shall not install any Equipment or make, or allow to be made, any alterations, physical additions, improvements or partitions, including without limitation the attachment of any fixtures or equipment, in, about or to the Premises ("Alterations") without obtaining the prior written consent of Landlord, which consent shall not be unreasonably withheld with respect to proposed Alterations which: (a) comply with all applicable Regulations; and (b) are, in Landlord's opinion, compatible with the Building and its mechanical, plumbing, electrical, heating/ventilation/air conditioning systems. Specifically, but without limiting the generality of the foregoing, Landlord shall have the right of written consent for all plans and specifications for the proposed Alterations, construction means and methods, all appropriate permits and licenses, any contractor or subcontractor to be employed on the work of Alterations, and the time for performance of such work, and may impose rules and regulations for contractors and subcontractors performing such work. Tenant shall also supply to Landlord any documents and information reasonably requested by Landlord in connection with Landlord's consideration of a request for approval hereunder. Tenant shall cause all Alterations to be accomplished in a first-class, good and workmanlike manner, and to comply with all applicable Regulations. Tenant shall at Tenant's sole expense, perform any additional work required under applicable Regulations due to the Alterations hereunder. Tenant shall be solely responsible for compliance with the Americans with Disabilities Act, 42 U.S.C. § 12101 et seq., and any governmental regulations relating thereto as it relates to the conduct of the Tenant's business or the condition of the Premises, including any alterations, additions and/or improvements made thereto. No consent by Landlord to any proposed Alteration or additional work shall constitute a waiver of Tenant's obligations to comply with all applicable Regulations under this Paragraph 12. Tenant shall reimburse Landlord for all costs up to $2,000 (for each occasion) which Landlord may incur in connection with granting approval to Tenant for any such Alterations, including any costs or expenses which Landlord may incur in electing to have outside architects and engineers review said plans and specifications. Except as otherwise provided in Paragraph 1.7, above, all such Alterations shall remain the property of Tenant until the expiration or earlier termination of this Lease, at which time they shall be and become the property of Landlord if Landlord so elects; provided, however, that Landlord shall, upon written request by Tenant at the time consent is sought, inform Tenant whether Tenant, at Tenant's expense, must remove any or all Alterations made by Tenant and restore the Premises by the expiration or earlier termination of this Lease, to their condition existing prior to the construction of any such Alterations. Landlord reserves the right to require Tenant to remove any Alterations for which Landlord's consent was not obtained. All such removals and restoration shall be accomplished in a good and workmanlike manner so as not to cause any damage to the Premises whatsoever. If Tenant fails to remove such Alterations or Equipment, Landlord may keep and use them or remove any of them and cause them to be stored or sold in accordance with applicable law, at Tenant's sole expense. In addition to and wholly apart from Tenant's obligation to pay Tenant's Proportionate Share of Operating Expenses, Tenant shall be responsible for and shall pay prior to delinquency any taxes or governmental service fees, other fees or charges in lieu of any such taxes, capital levies, or other charges imposed upon, levied with respect to or assessed against its personal property, on the value of Alterations within the Premises, and on Tenant's interest pursuant to this Lease, or any increase in any of the foregoing based on such Alterations. To the extent that any such taxes are not separately assessed or billed to Tenant, Tenant shall pay the amount thereof as invoiced to Tenant by Landlord.

12.2 In compliance with Paragraph 27 hereof, at least ten (10) business days before the installation of any Equipment or before beginning construction of any Alterations, Tenant shall give Landlord written notice of the expected commencement date of such installation or construction, as the case may be, to permit Landlord to post and record a notice of non-responsibility. Upon substantial completion of such installation or construction, as the case may be, Tenant shall cause a timely notice of completion to be recorded in the office of the recorder of Salt Lake County, Utah and in the office of the appropriate state agency.

13. Signs. All signs, notices and graphics of every kind or character, visible in or from public view or corridors, the Common Areas or the exterior of the Premises, shall be in accordance with applicable governmental regulations and subject to Landlord’s prior written approval, which Landlord shall have the right to withhold in its reasonable discretion. If there are monument signs deemed by Landlord to be monument signs constructed for the benefit of the Project, Tenant shall have the right to have its corporate name included on such monument signs. Tenant shall not place or maintain any banners whatsoever or any window decor in or on any exterior window or window fronting upon any Common Areas or service area or upon any truck doors or man doors without Landlord’s prior written approval which Landlord shall have the right to withhold in its absolute and sole discretion. Any installation of signs or graphics on or about the Premises shall be subject to any other requirements imposed by Landlord and to any Regulations, including without limitation the requirement that building signage, if approved pursuant to this Paragraph, shall be mounted to concrete (not alucabond). Tenant shall remove all such signs or graphics by the termination of this Lease. Such installations and removals shall be made by Tenant, at Tenant’s sole cost and expense, in accordance with the provisions of this Lease and in such manner as to avoid injury to or defacement of the Premises, the Building the Project, and any other improvements contained therein, and Tenant shall repair any injury or defacement including without limitation discoloration caused by such installation or removal.

14. Inspection/Posting Notices. After reasonable notice, except in emergencies where no such notice shall be required, Landlord and Landlord’s agents and representatives, shall have the right to enter the Premises to inspect the same, to perform such work as may be permitted or required hereunder, to make repairs or alterations to the Premises, to deal with emergencies, to post such notices as may be permitted or required by law to prevent the perfection of liens against Landlord’s interest in the Project or to exhibit the Premises during the last nine (9) months of the Term or following any agreement to terminate this Lease, to prospective tenants, purchasers, encumbrancers or to others, or for any other purpose as Landlord may deem necessary or desirable; provided, however, that Landlord shall use reasonable efforts not to unreasonably interfere with Tenant’s business operations. Tenant shall not be entitled to any abatement of Rent by reason of the exercise of any such right of entry. At any time within six (6) months prior to the expiration of the Term or following any earlier termination of this Lease or agreement to terminate this Lease, Landlord shall have the right to erect on the Premises a suitable sign indicating that the Premises are available for lease.

15. Utilities. Tenant shall pay directly for all water, gas, heat, air conditioning, light, power, telephone, sewer, sprinkler charges and other utilities and services used on or from the Premises, together with any taxes, penalties, surcharges or the like pertaining thereto, and maintenance charges for utilities and shall furnish all electric light bulbs, ballasts and tubes. Landlord shall not be liable for any damages directly or indirectly resulting from nor shall the Rent or any monies owed Landlord under this Lease herein reserved be abated by reason of: (a) the installation, use or interruption of use of any equipment used in connection with the furnishing of any such utilities or services; (b) the failure to furnish or delay in furnishing any such utilities or services when such failure or delay is caused by acts of God or the elements, labor disturbances of any character, or any other accidents or other conditions beyond the reasonable control of Landlord; or (c) the limitation, curtailment, rationing or restriction on use of water, electricity, gas or any other form of energy or any other service or utility whatsoever serving the Premises.

16. Subordination. Without the necessity of any additional document being executed by Tenant for the purpose of effecting a subordination, the Lease shall be subject and subordinate at all times to: (a) all ground leases or underlying leases which may now exist or hereafter be executed affecting the Project, or any portion thereof; and (b) any mortgage or deed of trust which may now exist or be placed upon the Project, or any portion thereof, or Landlord’s interest or estate in any of said items which is specified as security. Notwithstanding the foregoing, Landlord shall have the right to subordinate or cause to be subordinated any such ground leases or underlying leases or any such liens to this Lease. In the event that any ground lease or underlying lease terminates for any reason or any mortgage or deed of trust is foreclosed or a conveyance in lieu of foreclosure is made for any

reason, Tenant shall, notwithstanding any subordination, attorn to and become the Tenant of the successor in interest to Landlord and Tenant shall not be disturbed in its possession under this Lease by such successor in interest so long as Tenant is not in default under this Lease. Within ten (10) business days after request by Landlord, Tenant shall execute and deliver documents evidencing Tenant's attornment or the subordination of this Lease with respect to any such ground leases or underlying leases or any such mortgage or deed of trust.

17. Financial Statements. At the request of Landlord from time to time (and no more than once annually), Tenant shall provide to Landlord, Tenant's current audited financial statements, which Landlord shall use solely for purposes of this Lease and in connection with the ownership, management, financing and disposition of the Project, or any portion thereof.

18. Estoppel Certificate. Tenant agrees from time to time, within ten business (10) days after request of Landlord, to deliver to Landlord, or Landlord's designee, an estoppel certificate stating that this Lease is in full force and effect, that this Lease has not been modified (or stating all modifications, written or oral, to this Lease), the date to which Rent has been paid, the unexpired portion of this Lease, that there are no current defaults by Landlord or Tenant under this Lease (or specifying any such defaults), and such other matters pertaining to this Lease as may be reasonably requested by Landlord. Failure by Tenant to execute and deliver such certificate shall constitute an acceptance of the Premises and acknowledgment by Tenant that the statements included are true and correct without exception. Tenant agrees that if Tenant fails to execute and deliver such certificate within such ten business (10) day period, Landlord may execute and deliver such certificate on Tenant's behalf and that such certificate shall be binding on Tenant. Landlord and Tenant intend that any statement delivered pursuant to this Paragraph may be relied upon by any mortgagee, beneficiary, purchaser or prospective purchaser of the Project or any interest therein. The parties agree that Tenant's obligation to furnish such estoppel certificates in a timely fashion is a material inducement for Landlord's execution of the Lease, and shall be an event of default if Tenant fails to fully comply or makes any material misstatement in any such certificate.

19. Security Deposit. Concurrently with the full execution of this Lease, Tenant shall deposit with Landlord the security deposit specified in the Basic Lease Information (the "Security Deposit"). The Security Deposit shall be held by Landlord as security for the faithful performance by Tenant of all of the terms, covenants and conditions of this Lease to be kept and performed by Tenant during the Term. If Tenant defaults with respect to any provision of this Lease, including but not limited to the provisions relating to the payment of rent, Landlord may (but shall not be required to) use, apply or retain all or any part of the Security Deposit for the payment of any rent or any other sum in default or for the payment of any amount which Landlord may spend or become obligated to spend by reason of Tenant's default, or to compensate Landlord for any other loss or damage which Landlord may suffer by reason of Tenant's default. If any portion of the Security Deposit is so used or applied, Tenant shall, within ten (10) business days after written demand therefor (along with reasonable evidentiary documentation thereof), deposit funds with Landlord in an amount sufficient to restore the Security Deposit to its original amount. Landlord shall not be required to keep the Security Deposit separate from its general funds, and Tenant shall not be entitled to interest on the Security Deposit. Provided that Tenant is not then in default, and shall not have defaulted, under any of the provisions of the Lease without curing such default pursuant to the terms and conditions contained herein, the Security Deposit shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) on January 31, 2011; provided, however, that if at any time after January 31, 2011, Tenant is in default under any of the provisions of the Lease, then Tenant shall deposit with Landlord the Security Deposit, which shall be held by Landlord pursuant to this Paragraph. Landlord may deliver the Security Deposit to the purchaser of Landlord's interest in the Premises, and Landlord shall then be discharged from any further liability with respect to the Security Deposit, provided that such purchaser is bound the provisions of this Paragraph 19.

20. Tenant's Remedies. The obligations and liability of Landlord to Tenant for any default by Landlord under the terms of this Lease are not personal obligations

of Landlord or of the individual or other partners of Landlord or its or their partners, directors, officers, or shareholders, and Tenant agrees to look solely to Landlord's interest in the Building, including access to any insurance proceeds, for the recovery of any amount from Landlord, and shall not look to other assets of Landlord nor seek recourse against the assets of the individual or other partners of Landlord or its or their partners, directors, officers or shareholders. Any lien obtained to enforce any such judgment and any levy of execution thereon shall be subject and subordinate to any lien, mortgage or deed of trust on the Building.

21. Assignment and Subletting.

21.1 General. Tenant shall not assign or pledge this Lease or sublet the Premises or any part thereof, whether voluntarily or by operation of law, or permit the use or occupancy of the Premises or any part thereof by anyone other than Tenant or its contractors or agents, or suffer or permit any such assignment, pledge, subleasing or occupancy, without Landlord's prior written consent except as provided herein. If Tenant desires to assign this Lease or sublet any or all of the Premises, Tenant shall give Landlord written notice (the "Transfer Notice") at least fifteen (15) business days prior to the anticipated effective date of the proposed assignment or sublease, which shall contain all of the information reasonably requested by Landlord to address Landlord's decision criteria specified hereinafter. Landlord shall then have a period of fifteen (15) business days following receipt of the Transfer Notice to notify Tenant in writing whether Landlord consents to the proposed assignee or subtenant and of any related documents or agreements associated with the assignment or sublease. If Landlord should fail to notify Tenant in writing of such election within said period, Landlord shall be deemed to have consented to such assignment or sublease. Notwithstanding the foregoing, Landlord's consent shall not be required for any proposed sublease or assignment to a parent, subsidiary of or affiliate under the control of Tenant or to any entity into which Tenant merges or is consolidated, provided Tenant gives notice to Landlord, and either (a) Tenant is the surviving entity or, (b) after giving effect to the merger, the surviving entity has assets and net worth at least as great as that of Tenant at the time this Lease was executed, and the surviving entity assumes this Lease in writing.

21.2 Conditions of Landlord's Consent. Without limiting the other instances in which it may be reasonable for Landlord to withhold Landlord's consent to an assignment or subletting, Landlord and Tenant acknowledge that it shall be reasonable for Landlord to withhold Landlord's consent in the following instances: the use of the Premises by such proposed assignee or subtenant would not be a Permitted Use or would increase the Parking Density of the Premises; the proposed assignee or subtenant is a governmental agency; the proposed assignee or subtenant does not have a good reputation as a tenant of property; the proposed assignee or subtenant is a person with whom Landlord is negotiating to lease space in the Project or is a present tenant of the Project; the assignment or subletting would entail any Alterations which would lessen the value of the leasehold improvements in the Premises; or Tenant is in default of any obligation of Tenant under this Lease, or Tenant has defaulted under this Lease on three (3) or more occasions during any twelve (12) months preceding the date that Tenant shall request consent. Failure by Landlord to consent to a proposed assignee or subtenant shall not cause a termination of this Lease. At the option of Landlord, a surrender and termination of this Lease shall operate as an assignment to Landlord of some or all subleases or subtenancies. Landlord shall exercise this option by giving notice of that assignment to such subtenants on or before the effective date of the surrender and termination.

21.3 Bonus Rent. Any Rent or other consideration realized by Tenant under any such sublease or assignment in excess of the Rent payable hereunder, after amortization of commercially reasonable brokerage commissions, legal expenses and Tenant improvements incurred by Tenant, shall be divided and paid, fifty percent (50%) to Tenant, fifty percent (50%) to Landlord. In any subletting or assignment undertaken by Tenant, Tenant shall diligently seek to obtain the fair market rental amount available in the marketplace for comparable space available for primary leasing.

21.4 Corporation. If Tenant is a corporation, a transfer of corporate shares by sale, assignment, bequest, inheritance, operation of law or other disposition (including such a transfer to or by a receiver or trustee in federal or state bankruptcy, insolvency or other proceedings) resulting in a change in the present control of such corporation or any of its parent corporations by the person or persons owning a majority of said corporate shares, shall constitute an assignment for purposes of this Lease. Notwithstanding the foregoing, a merger of Tenant with another corporation or the acquisition of Tenant by another corporation shall not be deemed an assignment so long as the net worth of the combined entity is as great as the net worth of Tenant on the date of the merger or acquisition.

21.5 Unincorporated Entity. If Tenant is a partnership, joint venture, limited liability company or other unincorporated business form, a transfer of the interest of persons, firms or entities responsible for managerial control of Tenant by sale, assignment, bequest, inheritance, operation of law or other disposition, so as to result in a change in the present control of said entity and/or a change in the identity of the persons responsible for the general credit obligations of said entity shall constitute an assignment for all purposes of this Lease.

21.6 Liability. No assignment or subletting by Tenant, permitted or otherwise, shall relieve Tenant of any obligation under this Lease or alter the primary liability of the Tenant named herein for the payment of Rent or for the performance of any other obligations to be performed by Tenant, including obligations contained in Paragraph 25 with respect to any assignee or subtenant. Any assignment or subletting which conflicts with the provisions hereof shall be void.

22. Authority. Each individual executing this Lease on behalf of an entity or association represents and warrants that they are duly authorized to execute and deliver this Lease on behalf of said entity or association in accordance with the by-laws or other operating agreement of said entity or association, and that this Lease is binding upon said entity or association in accordance with its terms. Each party hereto affirms and states that such party has the full right, power and authority to enter into and perform under this Lease and that the same will not contravene or result in the violation of any agreement, rule or regulation to which any such party may be subject. Concurrently with the execution of this Lease, Tenant shall deliver to Landlord executed authorizing resolutions or other evidence (reasonably satisfactory to Landlord) authorizing Tenant to enter into and perform this Lease, together with signature and incumbency certificates and other evidence (reasonably satisfactory to Landlord) authorizing Tenant and the authorized representatives of Tenant to enter into and perform this Lease, and together with authorizing resolutions or other evidence (reasonably satisfactory to Landlord) authorizing Tenant's affiliated entities or associations and the authorized representatives of such affiliates to enter into and perform this Lease.

23. Condemnation.

23.1 Condemnation Resulting in Termination. If the whole or any substantial part of the Building of which the Premises are a part should be taken or condemned for any public use under governmental law, ordinance or regulation, or by right of eminent domain, or by private purchase in lieu thereof, and the taking would prevent or materially interfere with the Permitted Use of the Premises, this Lease shall terminate and the Rent shall be abated during the unexpired portion of this Lease, effective when the physical taking of said Premises shall have occurred.

23.2 Condemnation Not Resulting in Termination. If a portion of the Building of which the Premises are a part should be taken or condemned for any public use under governmental law, ordinance or regulation, or by right of eminent domain, or by private purchase in lieu thereof, and the taking materially interferes with the Permitted Use of the Premises, and this Lease is not terminated as provided in Paragraph 23.1 above, the

Rent payable hereunder during the unexpired portion of the Lease shall be reduced, beginning on the date when the physical taking shall have occurred, to such amount as may be fair and reasonable under all of the circumstances.

23.3 Award. Landlord shall be entitled to any and all payment, income, rent, award or any interest therein whatsoever which may be paid or made in connection with such taking or conveyance and Tenant shall have no claim against Landlord or otherwise for the value of any unexpired portion of this Lease. Notwithstanding the foregoing, any compensation specifically and separately awarded Tenant for Tenant's personal property and moving costs, shall be and remain the property of Tenant.

24. Casualty Damage.

24.1 General. If the Premises or the Building should be damaged or destroyed by fire, tornado, or other casualty (collectively, "Casualty"), Tenant shall give immediate written notice thereof to Landlord. Within thirty (30) days after Landlord's receipt of such notice, Landlord shall notify Tenant whether in Landlord's good faith estimation material restoration of the Premises can reasonably be made either: (1) within 120 days; (2) in more than 120 days but within one hundred eighty (180) days; or (3) in more than 180 days from the date of such notice and receipt of required permits for such restoration. Landlord's determination shall be binding on Tenant.

24.2 Within 120 Days. If the Premises or Building should be damaged by Casualty to such extent that material restoration can in Landlord's good faith estimation be reasonably completed within 120 days after the date of such damage and receipt of required permits for such restoration, this Lease shall not terminate. Provided that insurance proceeds are received by Landlord to fully repair the damage, Landlord shall proceed to rebuild and repair the Premises in the manner reasonably determined by Landlord, except that Landlord shall not be required to rebuild, repair or replace any part of the Alterations which may have been placed on or about the Premises by Tenant. If the Premises are untenantable in whole or in part following such damage, the Rent payable hereunder during the period in which they are untenantable shall be abated proportionately, and to the extent the Premises are unfit for occupancy.

24.3 Greater than 120 Days. If the Premises or Building should be damaged by Casualty to such extent that rebuilding or repairs can in Landlord's estimation be reasonably completed in more than 120 days but within 180 days after the date of such damage and receipt of required permits for such rebuilding or repair, then Landlord shall have the option of either: (1) terminating this Lease effective upon the date of the occurrence of such damage, in which event the Rent shall be abated during the unexpired portion of this Lease; or (2) electing to rebuild or repair the Premises in the manner reasonably determined by Landlord. Notwithstanding the above, Landlord shall not be required to rebuild, repair or replace any part of the Alterations which may have been placed, on or about the Premises by Tenant. If the Premises are untenantable in whole or in part following such damage, the Rent payable hereunder during the period in which they are untenantable shall be abated proportionately, and to the extent the Premises are unfit for occupancy. In the event that Landlord should fail to complete such repairs and rebuilding within 180 days after the date upon which Landlord is notified by Tenant of such damage, such period of time to be extended for delays caused by the fault or neglect of Tenant or otherwise by Tenant or because of acts of God, acts of public agencies, labor disputes, strikes, fires, freight embargoes, rainy or stormy weather, inability to obtain materials, supplies or fuels, or delays of the contractors or subcontractors or any other causes or contingencies beyond the reasonable control of Landlord, Tenant may at Tenant's option within ten (10) days after the expiration of such 180 day period (as such may be extended), terminate this Lease by delivering written notice of termination to Landlord as Tenant's exclusive remedy, whereupon all rights hereunder shall cease and terminate thirty (30) days after Landlord's receipt of such termination notice.

24.4 Greater than 180 Days. If the Premises or Building should be so damaged by Casualty that rebuilding or repairs cannot in Landlord's good faith estimation be completed 180 days after such damage and receipt of required permits for such rebuilding or repair, this Lease shall terminate and the Rent shall be abated during the unexpired portion of this Lease, effective upon the date of the occurrence of such damage.

24.5 Tenant's Fault. Notwithstanding anything herein to the contrary, if the Premises or any other portion of the Project are damaged by Casualty resulting from the fault, negligence, or breach of this Lease by Tenant or any of Tenant's Parties, Base Rent and Additional Rent shall not be diminished during the repair of such damage and Tenant shall be liable to Landlord for the cost and expense of the repair and restoration of the Project caused thereby to the extent such cost and expense is not covered by insurance proceeds.

24.6 Insurance Proceeds. Notwithstanding anything herein to the contrary, in the event that the Premises or Building are damaged or destroyed and are not fully covered by the insurance proceeds received by Landlord or in the event that the holder of any indebtedness secured by a mortgage or deed of trust covering the Premises requires that the insurance proceeds be applied to such indebtedness, then in either case Landlord shall have the right to terminate this Lease by delivering written notice of termination to Tenant within thirty (30) days after the date of notice to Landlord that said damage or destruction is not fully covered by insurance or such requirement is made by any such holder, as the case may be, whereupon all rights and obligations hereunder shall cease and terminate.

24.7 Tenant's Personal Property. In the event of any damage or destruction of the Premises or the Project, under no circumstances shall Landlord be required to repair any injury or damage to, or make any repairs to or replacements of, Tenant's personal property, provided that such damage is not the result of Landlord's gross negligence or willful misconduct.

25. Holding Over. Unless Landlord expressly consents in writing to Tenant's holding over, Tenant shall be only a Tenant at sufferance, whether or not Landlord accepts any Rent from Tenant or any other person while Tenant is holding over without Landlord's written consent. If Tenant shall retain possession of the Premises or any portion thereof without Landlord's consent following the expiration of this Lease or sooner termination for any reason, then Tenant shall pay to Landlord for each day of such retention 125% of the amount of daily rental as of the last month prior to the date of expiration or earlier termination. Tenant shall also indemnify, defend, protect and hold Landlord harmless from any loss, liability or cost, including reasonable attorneys' fees, resulting from delay by Tenant in surrendering the Premises, including, without limitation, any claims made by the succeeding tenant founded on such delay. Acceptance of Rent by Landlord following expiration or earlier termination shall not constitute a renewal of this Lease, and nothing contained in this Paragraph 25 shall waive Landlord's right of reentry or any other right. Additionally, in the event that upon expiration or earlier termination of this Lease, Tenant has not fulfilled its obligation with respect to repairs and cleanup of the Premises or any other Tenant obligations as set forth in this Lease, then Landlord shall have the right to perform any such obligations as it deems necessary at Tenant's sole cost and expense, and any time required by Landlord to complete such obligations shall be considered a period of holding over and the terms of this Paragraph 25 shall apply. The provisions of this Paragraph 25 shall survive any expiration or earlier termination of this Lease.

26. Default.

26.1 Events of Default. Tenant waives any right to notice Tenant may have under any applicable law. Landlord and Tenant agree that the terms of this Paragraph 26.1 are satisfy of any applicable notice requirement. The occurrence of any of the following shall constitute an event of default on the part of Tenant:

26.1.1 Abandonment of the Premises. Tenant abandons, vacates or, for a period of more than thirty (30) days, ceases to use the Premises, in whole or in part, for the Permitted Use.

26.1.2 Nonpayment of Rent. Failure to pay any installment of Rent or any other amount due and payable hereunder upon the date when said payment is due, provided, however, that not more than once each calendar year, such failure shall not be an event of default unless the failure continues for more than ten (10) days after receipt of written notice from Landlord of such failure, notwithstanding any time period described in Paragraph 31.2.

26.1.3 Other Obligations. Failure to perform any obligation, agreement or covenant under this Lease other than those matters specified in Subparagraphs 26.1.1 and 26.1.2, such failure continuing for thirty (30) days after written notice of such failure which notice shall identify said failure with sufficient specificity; provided that, if the failure cannot be cured within such thirty (30) day period, Tenant shall have such other longer period, not to exceed sixty (60) days, in which to correct such violation so long as Tenant shall commence such cure within said thirty (30) day period and prosecute the same to completion with reasonable diligence.

26.1.4 General Assignment. A general assignment by Tenant for the benefit of creditors.

26.1.5 Bankruptcy. The filing of any voluntary petition in bankruptcy by Tenant, or the filing of an involuntary petition by Tenant’s creditors, which involuntary petition remains undischarged for a period of thirty (30) days. In the event that under applicable law, the trustee in bankruptcy or Tenant has the right to affirm this Lease and continue to perform the obligations of Tenant hereunder, such trustee or Tenant shall, in such time period as may be permitted by the bankruptcy court having jurisdiction, cure all defaults of Tenant hereunder outstanding as of the date of the affirmance of this Lease and provide to Landlord such adequate assurances as may be reasonably necessary to ensure Landlord of the continued performance of Tenant’s obligations under this Lease.

26.1.6 Receivership. The employment of a receiver to take possession of substantially all of Tenant’s assets or the Premises, if such appointment remains undismissed or undischarged for a period of ten (10) days after the order therefor.

26.1.7 Attachment. The attachment, execution or other judicial seizure of all or substantially all of Tenant’s assets or the Premises, if such attachment or other seizure remains undismissed or undischarged for a period of ten (10) days after the levy thereof.

26.2 Remedies Upon Default.

26.2.1 Termination. In the event of the occurrence of any event of default, Landlord shall have the right to give a written termination notice to Tenant, and on the date specified in such notice, Tenant’s right to possession shall terminate, and this Lease shall terminate unless on or before such date all Rent in arrears and all costs and expenses incurred by or on behalf of Landlord hereunder shall have been paid by Tenant and all other events of default of this Lease by Tenant at the time existing shall have been fully remedied to the satisfaction of Landlord. At any time after such termination, Landlord may recover possession of the Premises or any part thereof and expel and remove therefrom Tenant and any other person occupying the same, by any lawful means, and again repossess and enjoy the Premises without prejudice to any of the remedies that Landlord may have under this Lease, or at law or equity by any reason of Tenant’s default or of such termination. Landlord hereby reserves the right to recognize the continued possession of any subtenant.

26.2.2 Continuation After Default. Even though an event of default may have occurred, this Lease shall continue in effect for so long as Landlord does not terminate Tenant's right to possession under Paragraph 26.2.1 hereof, and Landlord may enforce all of Landlord's rights and remedies under this Lease and at law or in equity, including without limitation, the right to recover Rent as it becomes due, and Landlord, without terminating this Lease, may exercise all of the rights and remedies of a landlord under any applicable law. Acts of maintenance, preservation or efforts to lease the Premises or the appointment of a receiver under application of Landlord to protect Landlord's interest under this Lease or other entry by Landlord upon the Premises shall not constitute an election to terminate Tenant's right to possession.

26.3 Damages After Default. Should Landlord terminate this Lease pursuant to the provisions of Paragraph 26.2.1 hereof, Landlord shall have the rights and remedies of a Landlord provided by any applicable law. Upon such termination, in addition to any other rights and remedies to which Landlord may be entitled under applicable law or at equity, Landlord shall be entitled to recover from Tenant: (1) the worth at the time of award of the unpaid Rent and other amounts which had been earned at the time of termination, (2) the worth at the time of award of the amount by which the unpaid Rent that would have been earned after the date of termination until the time of award exceeds the amount of such Rent loss that could have been reasonably avoided had Landlord used reasonable efforts to mitigate damages hereunder; (3) the worth at the time of award of the amount by which the unpaid Rent for the balance of the Term after the time of the award exceeds the amount of such Rent loss that could have been reasonably avoided had Landlord used reasonable efforts to mitigate damages hereunder; and (4) any other amount and court costs necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to perform Tenant's obligations under this Lease; provided that, with respect to subparagraphs (2) and (3), above, Landlord shall not be liable nor Tenant's obligations hereunder diminished because of Landlord's failure to relet the Leased Premises or collect rent due in respect of such reletting provided Landlord has used reasonable efforts to mitigate damages hereunder. The "worth at the time of award" as used in (1) and (2) above shall be computed at the lesser of the "prime rate," as announced from time to time by Wells Fargo Bank, N.A. (Salt Lake City) or its successor, plus three (3) percentage points, or the maximum interest rate allowed by law ("Applicable Interest Rate"). The "worth at the time of award" as used in (3) above shall be computed by discounting such amount at the Federal Discount Rate of the Federal Reserve Bank of San Francisco at the time of the award plus one percent (1%). If this Lease provides for any periods during the Term during which Tenant is not required to pay Base Rent or if Tenant otherwise receives a Rent concession, then upon the occurrence of an event of default, Tenant shall owe to Landlord the full amount of such Base Rent or value of such Rent concession, plus interest at the Applicable Interest Rate, calculated from the date that such Base Rent or Rent concession would have been payable.

In addition, if this Lease is terminated, Tenant shall, upon demand by Landlord and at Tenant's expense, remove all improvements installed by Tenant, and if Tenant fails to do so, Landlord shall have the right to do so at Tenant's expense and possession by Tenant shall not be deemed to have been surrendered to Landlord until all such improvements are removed.

26.4 Late Charge. In addition to its other remedies, Landlord shall have the right without notice or demand to add to the amount of any payment required to be made by Tenant hereunder, and which is not paid and received by Landlord on or before the fifth day of each calendar month, an amount equal to three percent (3%) of the delinquency to compensate Landlord for the loss of the use of the amount not paid and the administrative costs caused by the delinquency, the parties agreeing that Landlord's damage by virtue of such delinquencies would be extremely difficult and impracticable to compute and the amount stated herein represents a reasonable estimate thereof. Any waiver by Landlord of any late charges shall not constitute a waiver of other late charges or any other remedies available to Landlord.

26.5 Remedies Cumulative. All rights, privileges and elections or remedies of the parties are cumulative and not alternative, to the extent permitted by law and except as otherwise provided herein.

27. Liens. Tenant shall at all times keep the Project, the Building and the Premises free from liens arising out of or related to work or services performed, materials or supplies furnished or obligations incurred by Tenant or in connection with work made, suffered or done by or on behalf of Tenant in or on the Project, the Building, or the Premises. In the event that Tenant shall not, within ten (10) days following the imposition of any such lien, cause the same to be released of record by payment or posting of a proper bond, Landlord shall have, in addition to all other remedies provided herein and by law, the right, but not the obligation, to cause the same to be released by such means as Landlord shall deem proper, including payment of the claim giving rise to such lien. All sums paid by Landlord on behalf of Tenant and all expenses incurred by Landlord in connection therefor shall be payable to Landlord by Tenant on demand with interest at the Applicable Interest Rate. Landlord shall have the right at all times to post and keep posted on the Premises any notices permitted or required by law, or which Landlord shall deem proper, for the protection of Landlord, the Premises and any other party having an interest therein, from mechanics' and materialmen's liens, and Tenant shall give Landlord not less than ten (10) business days prior written notice of the commencement of any work in the Premises which could lawfully give rise to a claim for mechanics' or materialmen's liens to permit Landlord to post and record a timely notice of non-responsibility.

28. Transfers by Landlord. In the event of a sale or conveyance by Landlord of the Project, or any portion thereof, or a foreclosure by any creditor of Landlord, the same shall operate to release Landlord from any liability upon any of the covenants or conditions, express or implied, herein contained in favor of Tenant, to the extent required to be performed after the passing of title to Landlord's successor-in-interest. In such event, Tenant agrees to look solely to the responsibility of the successor-in-interest of Landlord under this Lease with respect to the performance of the covenants and duties of Landlord to be performed after the passing of title to Landlord's successor-in-interest. This Lease shall not be affected by any such sale and Tenant agrees to attorn to the purchaser or assignee. Landlord's successor(s)-in-interest shall not have liability to Tenant with respect to the failure to perform any of the obligations of Landlord, to the extent required to be performed prior to the date such successor(s)-in-interest became the owner of the Building.

29. Right of Landlord to Perform Tenant's Covenants. All covenants and agreements to be performed by Tenant under any of the terms of this Lease shall be performed by Tenant at Tenant's sole cost and expense. If Tenant shall fail to pay any sum of money, other than Base Rent, required to be paid by Tenant hereunder or shall fail to perform any other act on Tenant's part to be performed hereunder, including Tenant's obligations under Paragraph 11 hereof, and such failure shall continue for thirty (30) days after notice thereof by Landlord, in addition to the other rights and remedies of Landlord, Landlord may make any such payment and perform any such act on Tenant's part. Subject to the terms and conditions of this Lease, Landlord may take such actions without any obligation and without releasing Tenant from any of Tenant's obligations. All sums so paid by Landlord and all incidental costs incurred by Landlord and interest thereon at the Applicable Interest Rate, from the date of payment by Landlord, shall be paid to Landlord on demand as Additional Rent.

30. Waiver. If either Landlord or Tenant waives the performance of any term, covenant or condition contained in this Lease, such waiver shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant or condition contained herein. The acceptance of Rent by Landlord shall not constitute a waiver of any preceding breach by Tenant of any term, covenant or condition of this Lease, regardless of Landlord's knowledge of such preceding breach at the time Landlord accepted such Rent. Failure by Landlord to enforce any of the terms, covenants or conditions of this Lease for any length of time shall not be deemed to waive or decrease the right of Landlord to insist thereafter upon strict performance by Tenant. Waiver by Landlord of any term, covenant or condition contained in this Lease may only be made by a written document signed by Landlord.

31. Notices. Each provision of this Lease or of any applicable governmental laws, ordinances, regulations and other requirements with reference to sending, mailing, or delivery of any notice or the making of any payment by Landlord or Tenant to the other shall be deemed to be complied with when and if the following steps are taken.

31.1 Rent. All Rent and other payments required to be made by Tenant to Landlord hereunder shall be payable to Landlord at Landlord's Notice Address set forth in the Basic Lease Information, or at such other address as Landlord may specify from time to time by written notice delivered in accordance herewith. Tenant's obligation to pay Rent and any other amounts to Landlord under the terms of this Lease shall not be deemed satisfied until such Rent and other amounts have been actually received by Landlord.

31.2 Other. All notices, demands, consents and approvals which may or are required to be given by either party to the other hereunder shall be in writing and either personally delivered, sent by commercial overnight courier, or mailed, certified or registered, postage prepaid, and addressed to the party to be notified at the Notice Address for such party as specified in the Basic Lease Information or to such other place as the party to be notified may from time to time designate by at least fifteen (15) days notice to the notifying party. Notices shall be deemed served upon receipt or refusal to accept delivery. Tenant appoints as its agent to receive the service of all default notices and notice of commencement of unlawful detainer proceedings the person in charge of or apparently in charge of occupying the Premises at the time, and, if there is no such person, then such service may be made by attaching the same on the main entrance of the Premises.

32. Attorneys' Fees. In any action which Landlord or Tenant brings to enforce its respective rights hereunder, the unsuccessful party shall pay all costs incurred by the prevailing party including reasonable attorneys' fees, to be fixed by the court, and said costs and attorneys' fees shall be a part of the judgment in said action.

33. Successors and Assigns. This Lease shall be binding upon and inure to the benefit of Landlord, its successors and assigns, and shall be binding upon and inure to the benefit of Tenant, its successors, and to the extent assignment is approved by Landlord as provided hereunder, Tenant's assigns.

34. Force Majeure. If performance by a party of any portion of this Lease is made impossible by any prevention, delay, or stoppage caused by strikes, lockouts, labor disputes, acts of God, acts of terrorism, inability to obtain services, labor, or materials or reasonable substitutes for those items, government actions, civil commotions, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, performance by that party for a period equal to the period of that prevention, delay, or stoppage is excused. Tenant's obligation to pay Rent, however, is not excused by this Paragraph 34.

35. Surrender of Premises. Tenant shall, upon expiration or sooner termination of this Lease, surrender the Premises to Landlord in the same condition as existed on the date that both the Landlord Improvements and the Tenant Improvements are complete(except as provided in Paragraph 12), normal wear and tear excepted, including all holes in walls repaired, all HVAC equipment in operating order and in good repair, and all floors broom cleaned, and free of any Tenant-introduced marking or painting, all to the reasonable satisfaction of Landlord. Tenant shall remove all of its debris from the Project. At or before the time of surrender, Tenant shall comply with the terms of Paragraph 12.1 hereof with respect to Alterations to the Premises and all other matters addressed in such Paragraph. If the Premises are not so surrendered at the expiration or sooner termination of this Lease, the provisions of Paragraph 25 hereof shall apply. All keys to the Premises or any part thereof shall be surrendered to Landlord upon expiration or sooner termination of the Term. Landlord shall give written notice to Tenant at least thirty (30) days prior to the expiration date of the term to meet with Tenant for a joint inspection of the Premises at the time of Tenant vacating the Premises for purposes of determining Tenant's responsibilities for repairs and restoration.

36. Miscellaneous.

36.1 General. The term “Tenant” or any pronoun used in place thereof shall indicate and include the masculine or feminine, the singular or plural number, individuals, firms or corporations, and their respective successors, executors, administrators and permitted assigns, according to the context hereof. Where the context so requires “Building” shall refer only to the Building actually leased by Tenant

36.2 Time. Time is of the essence regarding this Lease and all of its provisions.

36.3 Choice of Law. The laws of the State of Utah will govern the validity, performance, enforcement, and all aspects of this Lease. Any dispute arising under this Lease shall be submitted to binding, compulsory arbitration in Salt Lake City, Utah in accordance with the Utah Arbitration Act and the commercial arbitration rules of the American Arbitration Association.

36.4 Entire Agreement. This Lease, together with its Exhibits and the pertinent provisions of the Management Agreement referenced in Paragraphs 7.2 and 11, above, contain all the agreements of the parties hereto and supersedes any previous negotiations, whether oral or written. There have been no representations made by the Landlord or its agents or understandings made between the parties other than those set forth in this Lease, together with its Exhibits and the pertinent provisions of the Management Agreement referenced in Paragraphs 7.2 and 11, above.

36.5 Modification. This Lease may not be modified except by a written instrument signed by the parties hereto.

36.6 Severability. If, for any reason whatsoever, any of the provisions hereof shall be unenforceable or ineffective, all of the other provisions shall be and remain in full force and effect.

36.7 Recordation. Tenant shall not record this Lease or a short form memorandum hereof.

36.8 Examination of Lease. Submission of this Lease to Tenant does not constitute an option or offer to lease and this Lease is not effective otherwise until execution and delivery by both Landlord and Tenant.

36.9 Accord and Satisfaction. No payment by Tenant of a lesser amount than the total Rent due nor any endorsement on any check or letter accompanying any check or payment of Rent shall be deemed an accord and satisfaction of full payment of Rent, and Landlord may accept such payment without prejudice to Landlord’s right to recover the balance of such Rent or to pursue other remedies.

36.10 Easements. Landlord may grant easements on the Project without Tenant’s consent; provided that no such grant materially interfere with Tenant’s Permitted Use of the Premises. Upon Landlord’s request, Tenant shall execute, acknowledge and deliver to Landlord documents, instruments, maps and plats necessary to effectuate Tenant’s covenants hereunder.

36.11 Drafting and Determination Presumption. The parties acknowledge that this Lease has been agreed to by both the parties, that both Landlord and Tenant have consulted with attorneys with respect to the terms of this Lease and that no presumption shall be created against Landlord because Landlord drafted this Lease. Except as otherwise specifically set forth in this Lease, with respect to any consent, determination or

estimation of Landlord required or allowed in this Lease or requested of Landlord, Landlord's consent, determination or estimation shall be given or made solely by Landlord in Landlord's good faith opinion, whether or not objectively reasonable.

36.12 Exhibits. The Exhibits attached hereto are hereby incorporated herein by this reference.

36.13 No Light. Air or View Easement. Any diminution or shutting off of light, air or view by any structure which may be erected on lands adjacent to or in the vicinity of the Building shall in no way affect this Lease or impose any liability on Landlord.

36.14 No Third Party Benefit. This Lease is a contract between Landlord and Tenant and nothing herein is intended to create any third party benefit.

36.15 Quiet Enjoyment. Upon payment by Tenant of the Rent, and upon the observance and performance of all of the other covenants, terms and conditions on Tenant's part to be observed and performed, Tenant shall peaceably and quietly hold and enjoy the Premises for the Term hereby demised without hindrance or interruption by Landlord or any other person or persons lawfully or equitably claiming by, through or under Landlord, subject, nevertheless, to all of the other terms and conditions of this Lease. Landlord shall not be liable for any hindrance, interruption, interference or disturbance by other tenants or third persons, nor shall Tenant be released from any obligations under this Lease because of such hindrance, interruption, interference or disturbance.

36.16 Counterparts. This Lease may be executed in any number of counterparts, each of which shall be deemed an original for any and all purposes and all of which together shall be considered one and the same instrument.

36.17 Multiple Parties. Intentionally deleted.

36.18 Prorations. Any Rent payable to Landlord by Tenant for any fractional month shall be prorated based on a month of thirty (30) days. As used herein, the term "fiscal year" shall mean the calendar year or such other fiscal year as Landlord may deem appropriate.

36.19 Further Diligence. Each party agrees to execute and deliver all documents and to perform all further acts as may be reasonably necessary to carry out the provisions of this Lease. The parties hereto agree to use reasonable diligence and to exercise their best efforts to fulfill their respective obligations under this Lease at all times that this Lease is in effect.

36.20 Waiver of Jury Trial. EACH PARTY TO THIS LEASE IRREVOCABLY WAIVES ANY AND ALL RIGHTS IT MAY HAVE TO DEMAND THAT ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR IN ANY WAY RELATED TO THIS LEASE OR THE RELATIONSHIPS OF THE PARTIES HERETO BE TRIED BY JURY. THIS WAIVER EXTENDS TO ANY AND ALL RIGHTS TO DEMAND A TRIAL BY JURY ARISING UNDER COMMON LAW OR ANY APPLICABLE STATUTE, LAW, RULE OR REGULATION. FURTHER, EACH PARTY HERETO ACKNOWLEDGES THAT IT IS KNOWINGLY AND VOLUNTARILY WAIVING ITS RIGHT TO DEMAND TRIAL BY JURY.

37. Additional Provisions.

37.1 Exhibits. Exhibits A through C, and Attachment A attached hereto are hereby incorporated into and made a part of this Lease as though fully set forth herein.

37.2 Landlord Improvements. Prior to the Lease Date Landlord has, at its sole cost and expense, constructed or caused the construction of the building shell and associated site improvements (the "Building Shell Improvements"). After the Lease Date Landlord shall, at its sole cost and expense, construct or cause the construction of certain Office Area improvements (the "Landlord Office Area Improvements"), and certain Production Area improvements (the "Landlord Production Area Improvements", and, collectively with the Building Shell Improvements and the Landlord Office Area Improvements, the "Landlord Improvements"), all as more particularly described in Exhibit B. Landlord's only obligation to provide improvements under this Lease shall be those Landlord Improvements described in Exhibit B. All other improvements desired by Tenant or required by law shall be the responsibility of Tenant at Tenant's sole cost and expense and shall be referred to, collectively, as the "Tenant Improvements".

37.3 Tenant Improvements. Tenant shall, at Tenant's sole cost and expense and with the aid of a licensed architect or engineer and the Prime Contractor, construct or cause the construction of the Tenant Improvements, which shall include without limitation certain Office Area improvements (the "Tenant Office Area Improvements") and certain Production Area improvements (the "Tenant Production Area Improvements"), all as more particularly described in Exhibit B. The Tenant Improvements shall be constructed in accordance with the terms and conditions of this Lease and Exhibit B (including without limitation completing plans and specifications for the Tenant Improvements, submitting such plans and specifications to Landlord for approval, and obtaining Landlord's approval prior to commencement of construction). When approved by Landlord, Tenant's final plans and specifications relating to the Tenant Office Area Improvements and the Tenant Production Area Improvements shall be attached or deemed attached as Exhibits B-6 and B-7, respectively.

All Tenant Improvements shall be completed in a good and workmanlike manner by Tenant at Tenant's sole cost and expense, and all materials and equipment incorporated into the Tenant Improvements (i) will be new and free of defects, (ii) will conform to all Regulations, applicable laws, ordinances and regulations of all duly constituted authorities, as the same are in affect on the date hereof and may be hereafter modified, amended or supplemented ("Applicable Laws"), and (iii) will conform to the final working drawings approved by Landlord and Tenant, including all changes or modifications thereto approved by Landlord.

Subject to the first paragraph of this Paragraph 37.3, Landlord will reasonably approve or disapprove said plans and specifications in accordance with the terms and conditions of Paragraph 4 of Exhibit B. Landlord may reasonably disapprove of said plans and specifications, including for the following reasons: the reasons set forth in Paragraph 1(B) of Exhibit B, the location of the restroom cores, the stairways and the elevators and improvements which are inconsistent with future office use and the size, weight and location of the heating, ventilating and air conditioning system components.

All substantive changes to the approved plans and specifications must be approved by Landlord, which approval shall not be unreasonably withheld.

Tenant and the Prime Contractor shall diligently pursue to completion said Tenant Improvements in accordance with the approved plans and specifications. Tenant acknowledges that Landlord may record a notice of non-responsibility in regards to the construction of the Tenant Improvements.

Any conflict between this Paragraph 37.3 and Exhibit B shall be controlled by Exhibit B.

37.4 Tenant Improvement Allowance. Provided that Tenant is not then in default, and shall not have defaulted, under any of the provisions of the Lease, subject to the provisions of this Paragraph, Landlord shall pay to Tenant a one-time only cash allowance (the "Tenant Improvement Allowance") equal to TWO HUNDRED THOUSAND AND 00/100 DOLLARS ($200,000.00). The Tenant Improvement Allowance shall be paid to the Tenant by the Landlord as follows:

37.4.1 The initial 50% of the Tenant Improvement Allowance within thirty (30) days-from the date Landlord receives from Tenant the first invoice from the Prime Contractor for the Tenant Improvements.

37.4.2 The remaining 50% upon the satisfaction of each of the following conditions as determined by Landlord in Landlord's sole discretion: (a) completion of the Tenant Improvements as evidenced by (i) the Architect's certificate, (ii) a recorded notice of completion, and (iii) satisfactory proof of payment for the Tenant Improvements, including lien releases from all contractors, subcontractors and materials providers; (b) the occurrence of the Term Commencement Date; (c) payment by Tenant to Landlord of all amounts due as of the Term Commencement Date; (d) an occupancy certificate issued by the local governing body pertaining to the Premises; and (e) full occupancy of the Premises by Tenant.

Notwithstanding the foregoing, Tenant understands, acknowledges and agrees that (a) Tenant shall be responsible for and pay 100% of the "Tenant Improvement Costs" (as defined in Paragraph 6(B) of Exhibit B) relating to the Tenant Improvements in excess of those that are paid for with the Tenant Improvement Allowance; (b) Tenant shall be responsible for and pay any additional construction costs and expenses related to the Landlord Improvements occasioned by changes or modifications in the Landlord's Plans made by Tenant pursuant to Paragraph 7 of Exhibit B or that are necessary to accommodate the Tenant Improvements; and (c) in any case, the Tenant Improvement Allowance shall not be used for any trade fixtures, equipment, furniture, furnishings, or personal property of Tenant.

37.5 Environmental. To the best of Landlord's knowledge, the Building, including the Premises, does not contain any Hazardous Materials which are in violation of any law, ordinance or regulation, and Landlord will indemnify and hold Tenant harmless from Tenant the cost of remediating any existing Hazardous Materials which are in violation.

37.6 Conduit. Subject to the terms of this Lease, Tenant shall have the right to install conduits at Tenant's expense, but such installation shall not interfere with the use of any driveways or parking spaces, and Tenant shall restore all the improvements, including landscaping, to the condition that existed prior to the installation of conduits and that such installation shall not interfere with any work being performed by Landlord.

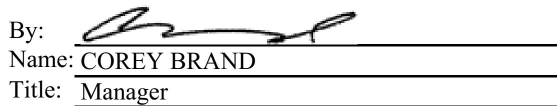
37.7 Security. Tenant shall have the right to install its own access control card reader security system in and outside the buildings, such installation shall be considered an Alteration and shall be subject to the provisions of Paragraph 12.

37.8 Brokers. Tenant represents that there were no brokers other than Commerce CRG ("Brokers") responsible for bringing about or negotiating this Lease. Tenant and Landlord agree to defend, indemnify, and hold the other harmless against any claims for brokerage commission or compensation with regard to the Premises by any other broker claiming or alleging to have acted on behalf of or to have dealt with indemnifying party. Landlord will pay any fees or commissions due the Brokers pursuant to a separate written agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the day and the year first above written.

LANDLORD:

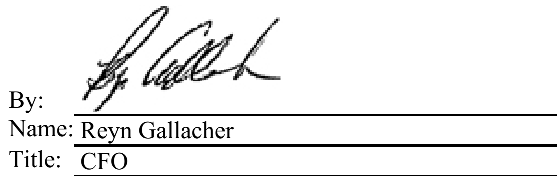
CENTREPOINTE PROPERTIES, L.L.C., a Utah limited liability company

By: 
Name: COREY BRAND
Title: Manager

Executed by Landlord this 21st day of April, 2009.

TENANT:

AMEDICA CORPORATION, a Delaware corporation

By: 
Name: Reyn Gallacher
Title: CFO

Executed by Tenant this 21 day of April, 2009.

EXHIBIT A

DEPICTION OF PROJECT, PREMISES, BUILDING SHELL PLAN AND ELEVATION

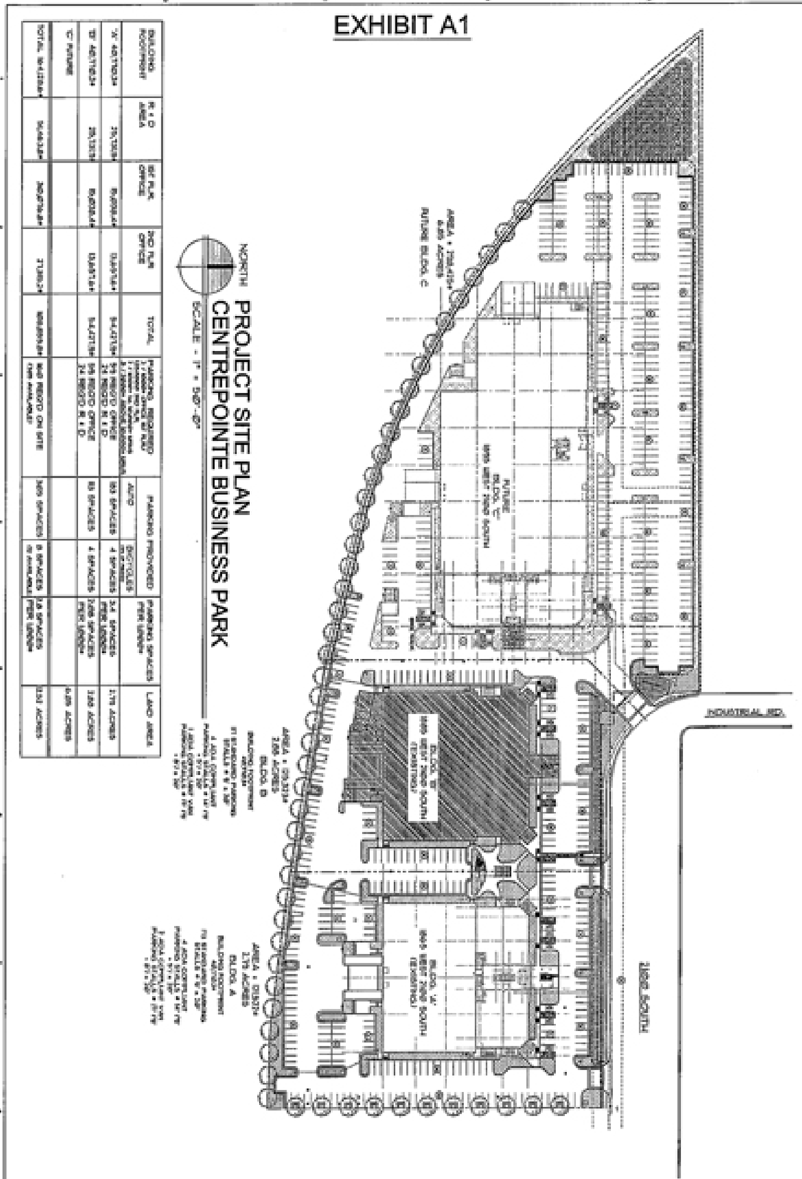


EXHIBIT A1
PROJECT SITE PLAN
CENTREPOINTE BUSINESS PARK
CentrePointe Business Park
PROJECT SITE PLAN
dave robinson architects
A1

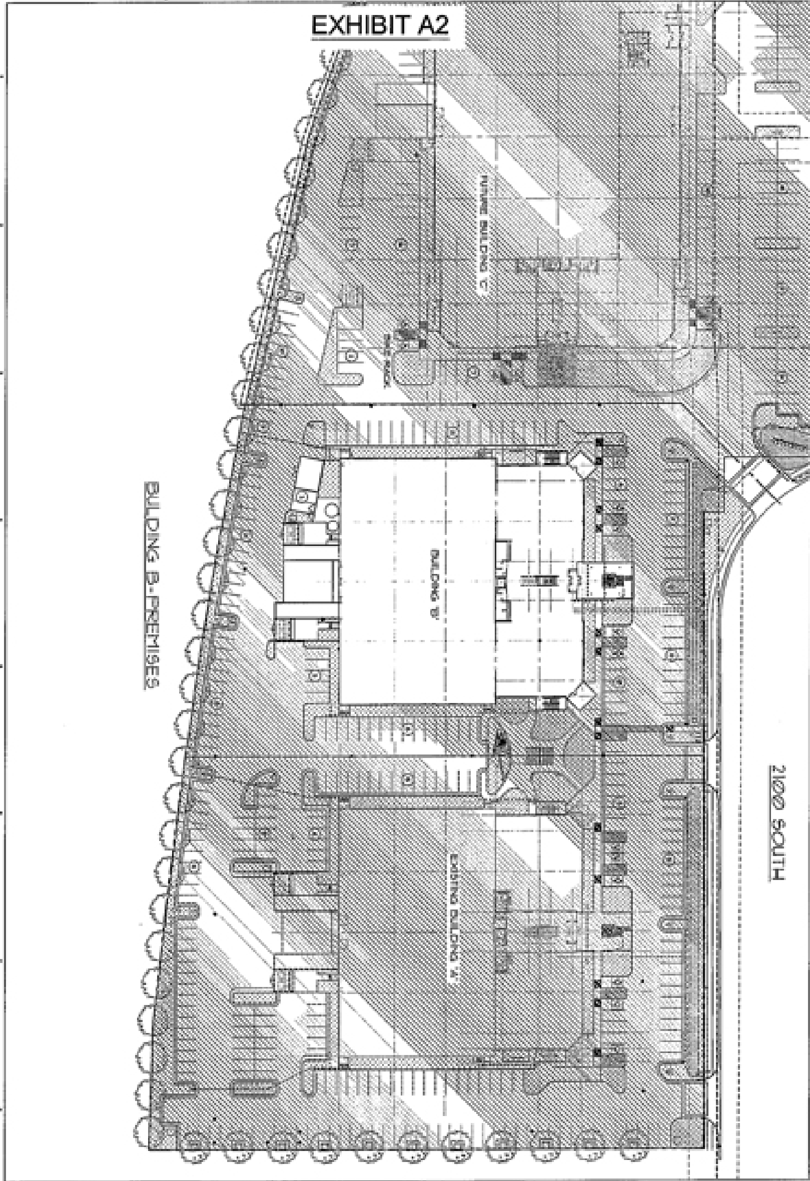


EXHIBIT A2
BUILDING B-PREMISES
2100 SOUTH
FUTURE BUILDING 'C'
BUILDING 'B'
EXISTING BUILDING 'A'
CentrePointe Business Park
PROJECT SITE PLAN
dave robinson architects
A2

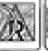


EXHIBIT A3

BLDG 'B' GROUND FLOOR PLAN

BLDG 'B' UPPER FLOOR PLAN

OPEN TO GROUND FLOOR BELOW

A3

CentrePointe Business Park
PROJECT SITE PLAN
1865 WEST 2100 SOUTH SALT LAKE CITY, UTAH 84119

dave robinson architects
6465 South 3000 East
Salt Lake City, Utah 84121
Suite 102
801-272-0242

EXHIBIT A4

WEST ELEVATION

NORTH ELEVATION

EAST ELEVATION

SOUTH ELEVATION

A4

CentrePointe Business Park
PROJECT SITE PLAN
1588 WEST 2100 SOUTH SALT LAKE CITY, UTAH 84119

dave robinson architects
6465 South 3000 East
Salt Lake City, Utah 84121
Suite 102
801-272-0242

EXHIBIT B

WORK LETTER AGREEMENT

This CONSTRUCTION AGREEMENT (this "Construction Agreement"), dated as of the 21st day of April, 2009, is made and entered into by and between CENTREPOINTE PROPERTIES, LLC, a Utah limited liability company ("Landlord"), and AMEDICA CORPORATION, a Delaware Corporation ("Tenant"), in connection with that certain Lease, dated as of the 21st day of April, 2009, by and between Landlord and Tenant (the "Lease"). This Construction Agreement sets forth the understanding between Landlord and Tenant with respect to the obligations concerning the Landlord Improvements and the Tenant Improvements to be constructed by Landlord and Tenant, respectively, and is hereby incorporated and made a part of the Lease.

1. **DEFINITIONS**: As used in this Construction Agreement, the following terms shall have the following meanings. Terms not otherwise defined herein shall have the meaning ascribed to same under the Lease:

A. **Scope of Work**.

(i) The Landlord Office Area Improvements and the Landlord Production Area Improvements, shall include the items listed in the "Landlord's Scope of Work" attached hereto as Exhibit B-1.

(ii) The scope of the Tenant Office Area Improvements and the Tenant Production Area Improvements, shall include the items listed in the "Tenant's Scope of Work" attached hereto as Exhibit B-2. Landlord and Tenant understand, acknowledge and agree that Exhibit B-2 includes certain items of Tenant's Equipment, which shall retain its status as Tenant's personalty and may be removed by Tenant pursuant to the terms and conditions of this Lease, unless (a) the removal of any such Equipment will detrimentally affect the structural integrity of the Building or its systems, or (b) any such Equipment is a part of the Building or its mechanical, plumbing, electrical, heating/ventilation/air conditioning systems.

B. **Plans and Specifications**.

(i) The Building Shell Improvements have been constructed by Landlord in accordance with the "Building Shell Plan" attached to the Lease as Exhibit A-3.

(ii) The Landlord Office Area Improvements shall be constructed by Landlord in accordance with the Landlord's Scope of Work and the "Landlord Office Area Improvements Plan" attached hereto as Exhibit B-3.

(iii) The Landlord Production Area Improvements shall be constructed by Landlord in accordance with the Landlord's Scope of Work and the "Landlord Production Area Improvements Plan" attached hereto as Exhibit B-4.

(iv) The Tenant Office Area Improvements shall be constructed by Tenant in accordance with the Tenant's Scope of Work.

(v) The Tenant Production Area Improvements shall be constructed by Tenant in accordance with the Tenant's Scope of Work and the "Tenant Production Area Improvements Plan" attached hereto as Exhibit B-5.

C. **Approvals**. Tenant has approved the Building Shell Plan, the Landlord Office Area Improvements Plan, and the Landlord Production Area Improvements Plan. Landlord shall not be deemed to have acted unreasonably if it withholds its approval of the Tenant Improvements, or any portion thereof, because, in Landlord's reasonable opinion, the proposed work: (i) is likely to adversely affect Building systems, the structure of the Building or the safety of the Building and/or its occupants; (ii) might impair Landlord's ability to furnish services to Tenant or other tenants in the Project; (iii) would increase the cost of operating the Building and/or the Project; (iv) would violate any governmental laws, rules or ordinances (or interpretations thereof); (v) contains or uses hazardous or toxic materials or substances; (vi) would adversely affect the appearance of the Building and/or the Project; (vii) might adversely affect another tenant's premises; (viii) is prohibited by any ground lease affecting the Project (or any portion thereof) or any mortgage, trust deed or other instrument encumbering the Project (or any portion thereof); or (ix) is likely to be substantially delayed because of unavailability or shortage of labor or materials necessary to perform such work or the difficulties or unusual nature of such work.

D. **Landlord Improvements**: Landlord Improvements shall include the following:

(i) The Building Shell Improvements, which Landlord and Tenant understand, acknowledge and agree were Substantially Completed by Landlord prior to the date of this Construction Agreement in accordance with the Building Shell Plan;

(ii) The Landlord Office Area Improvements, which shall be Substantially Completed by Landlord pursuant to the Construction Schedule and in accordance with the Landlord's Scope of Work and the Landlord Office Area Improvements Plan; and

(iii) The Landlord Production Area Improvements, which shall be Substantially Completed by Landlord pursuant to the Construction Schedule and in accordance with the Landlord's Scope of Work and the Landlord Production Area Improvements Plan.

E. **Tenant Improvements**: Tenant Improvements shall include without limitation the following:

(i) The Tenant Office Area Improvements, which Tenant shall commence and Substantially Complete pursuant to the Construction Schedule, all in accordance with the Tenant's Scope of Work; and

(ii) The Tenant Production Area Improvements, which Tenant shall commence and Substantially Complete pursuant to the Construction Schedule, all in accordance with the Tenant's Scope of Work and the Tenant Production Area Improvements Plan.

F. **Improvements**: "Improvements" shall mean the Landlord Improvements and the Tenant Improvements.

G. **Construction Schedule**: "Construction Schedule" shall mean the estimated times for performance of construction obligations as set forth in Paragraph 3 of this Construction Agreement.

H. **Architect**: "Architect" shall mean David Robinson, who is the architect with respect to the Landlord Improvements (pursuant to a contract with the Landlord) and the Tenant Improvements (pursuant to a contract with the Tenant).

I. **Prime Contractor(s)**: "Prime Contractor" shall mean SIRQ Construction Solutions, 875 Baxter Drive, South Jordan, Utah 84095, Tel: 801-253-7825, Fax: 801-253-7663, which is the licensed general contractor with respect to the Landlord Improvements (pursuant to a contract with the Landlord) and the Tenant Improvements (pursuant to a contract with the Tenant).

J. **Substantial Completion**: "Substantial Completion" (and "Substantially Completed") with respect to each of the Building Shell Improvements, the Landlord Office Area Improvements, the Landlord Production Area Improvements, the Tenant Office Area Improvements, or the Tenant Production Area Improvements shall mean the date when all of the following have occurred with respect to any such Improvement: (i) the construction of such Improvement has been substantially completed in accordance with the approved plans therefor except for punch list items which do not prevent Tenant from reasonably using the Premises to conduct Tenant's business; (ii) Landlord has executed a certificate or statement representing that such Improvement has been substantially completed in accordance with the plans and specifications therefor except for punch lists items which do not prevent Tenant from reasonably using the Premises to conduct Tenant's business; and (iii) the Building Department of the local governing authority has completed its final inspection of such Improvement and has issued a building inspection card (or equivalent certification) approving such work as complete except for punch list items which do not prevent Tenant from reasonably using the Premises to conduct Tenant's business. Notwithstanding the foregoing, Substantial Completion of the Tenant Improvements shall not be deemed to have occurred until Tenant has obtained final or conditional approval from the local Fire Department that the Tenant Improvements have been completed in accordance with such department's requirements (subject only to conditions that do not prevent Tenant from occupying the Premises). Notwithstanding anything contained herein or in the Lease to the contrary, Landlord and Tenant understand, acknowledge and agree that in no event shall the Term Commencement Date and Tenant's obligation to pay Rent under the Lease be delayed by reason of (a) Landlord's construction of the Landlord Production Area Improvements; (b) Tenant's construction of the Tenant Improvements; or (c) any delays associated with the Substantial Completion of either the Landlord Production Area Improvements or the Tenant Improvements.

2. **GOVERNMENTAL APPROVALS**: Landlord is responsible for obtaining the building permit from the local governing authority for the Landlord Improvements. Tenant is responsible for acquiring all necessary permits to construct the Tenant Improvements and any modifications to the Landlord Improvements and site plan if already designed and approved by both Landlord and Tenant. Due to the Tenant Improvements, the parties agree it is difficult to estimate the completion date of the Improvements. The Tenant shall use its best efforts to complete the Tenant Improvements as quickly as possible in accordance with the Construction Schedule. In no event shall the Term Commencement Date and Tenant's obligation to pay Rent under the Lease be delayed by reason of (a) Landlord's construction of the Landlord Production Area Improvements; (b) Tenant's construction of the Tenant Improvements; or (c) any delays associated with the Substantial Completion of either the Landlord Production Area Improvements or the Tenant Improvements.

3. **SCHEDULE FOR CONSTRUCTION OF IMPROVEMENTS**:

(i) Landlord Improvements. Landlord Substantially Completed the Building Shell Improvements prior to the date of this Construction Agreement. Landlord will commence construction of the Landlord Office Area Improvements as soon as possible and, except as otherwise provided in the Lease, shall diligently prosecute such construction to completion, using all reasonable efforts to achieve Substantial Completion of the Landlord Office Area Improvements by the Delivery Date, subject to delays caused by (A) Tenant, whether caused by Tenant's failure to timely respond to a Landlord request, Tenant's interference with any of the work to be performed by Landlord, Tenant's request for materials not immediately available, or any other cause related to an act or omission by Tenant; and/or (B) an event of force majeure. Landlord shall commence construction of the Landlord Production Area Improvements as soon as possible after the Delivery Date, but may elect in its sole discretion to commence such construction prior to such date, and, except as otherwise provided in the Lease, shall diligently prosecute such construction to completion, subject to delays caused by (A) Tenant, whether caused by Tenant's failure to timely respond to a Landlord request, Tenant's interference with any of the work to be performed by Landlord, Tenant's request for materials not immediately available, or any other cause related to an act or omission by Tenant; and/or (B) an event of force majeure. In no event shall the Term Commencement Date and Tenant's obligation to pay Rent under the Lease be delayed by reason of Landlord's construction of the Landlord Production Area Improvements, or any delays associated with the Substantial Completion of the Landlord Production Area Improvements.

(ii) Tenant Improvements. Tenant shall commence construction of the Tenant Office Area Improvements and of the Tenant Production Area Improvements in accordance with Article 2 of the Lease and shall diligently prosecute such construction to completion, subject to delays caused by an event of force majeure. In no event shall the Term Commencement Date and Tenant's obligation to pay Rent under the Lease be delayed by reason of Tenant's construction of the Tenant Improvements, or any delays associated with the Substantial Completion of the Tenant Improvements.

4. **TENANT'S BUILDING PERMITS**. Tenant shall apply for all necessary permits to construct the Tenant Improvements, shall pay any fees associated therewith, and shall diligently prosecute to completion such approval process.

5. **CONSTRUCTION OF IMPROVEMENTS**: The Improvements to be constructed in connection with the Lease shall be paid for by the parties as set forth in Paragraph 6, below, and shall be constructed in the following manner:

A. **Construction of Landlord Improvements**: The Landlord Improvements have been, or shall be, constructed by Landlord in accordance with, as and to the extent applicable, the Landlord's Scope of Work, the Building Shell Plan, the Landlord Office Area Improvements Plan and the Landlord Production Area Improvements Plan (collectively, the "Landlord's Plans"): it being agreed, however, that if the Landlord Improvements or the Tenant Improvements finally constructed, as the case may be, do not conform exactly to the Landlord's Plans or the Tenant Production Area Improvements Plan and as provided for in the Lease, and the general appearance, structural integrity, and Tenant's use and occupancy of the Premises and/or the Building and the Landlord Improvements and Tenant Improvements relating thereto are not unreasonably affected by such deviation, it is agreed that the Tenant's obligation to pay Rent under the Lease, shall not be affected, and Tenant hereby agrees, in such event, to accept the Premises, the Building and the Common Areas in their configuration as constructed by Landlord.

B. **Construction of Tenant Improvements**: The Tenant Improvements shall be constructed and paid for by Tenant, in conformance (except as provided above) with the Tenant Production Area Improvements Plan approved by Landlord and Tenant. The Landlord shall pay the Tenant Improvement Allowance amount as provided for in Paragraph 37.4 of the Lease pursuant to the terms and conditions of the Lease and this Construction Agreement.

C. **Inspection Following Completion**: As soon as the Tenant Improvements are Substantially Completed (as that term is defined herein), Landlord and Tenant shall conduct a joint walkthrough of the Premises, and inspect such Tenant Improvements. Landlord shall acknowledge in writing that the construction of the Tenant Improvements complies with the approved plans and specifications.

6. **PAYMENT OF CONSTRUCTION COSTS**:

A. **Landlord Improvements**: Landlord shall construct the Landlord Improvements at its sole cost and expense, subject to the provisions of this Construction Agreement and the Lease. The cost of Landlord's construction of any Tenant Improvements shall be deducted from the Tenant Improvement Allowance.

B. **Tenant Improvement Allowance**: Except as otherwise provided herein, including Landlord's obligation to pay the Tenant Improvement Allowance, Tenant shall construct the Tenant Improvements at its sole cost and expense. Landlord agrees to furnish Tenant with a one-time only Tenant Improvement Allowance in the amount of TWO HUNDRED THOUSAND AND 00/100 DOLLARS ($200,000.00) as set forth in, and payable in accordance with, the provisions of Paragraph

37.4 of the Lease. This Tenant Improvement Allowance shall be considered Landlord's total monetary contribution with respect to the Tenant Improvements, which allowance shall be paid directly to the Prime Contractor for the Tenant Production Area Improvements only (the "Tenant Improvement Costs"). Notwithstanding the foregoing, the term "Tenant Improvement Costs" shall not include any of the following: (i) real property taxes and assessments accruing prior to the Term Commencement Date; (ii) interest on funds borrowed or imputed interest on funds reserved by Landlord to fund the construction; (iii) any administrative or development fee paid to Landlord or any affiliate. Pursuant to Paragraph 37.4 of the Lease and this Construction Agreement, the cost of Landlord's construction of any Tenant Improvements shall be deducted from the Tenant Improvement Allowance.

C. **Liability for Tenant Improvement Costs Above the Tenant Improvement Allowance**: It is further agreed that Tenant shall be responsible for and pay 100% of all costs relating to the Tenant Improvements in excess of those that are paid for with the Tenant Improvement Allowance. In addition, Tenant shall be responsible for and pay any additional construction costs and expenses related to the Landlord Improvements occasioned by changes or modifications in the Landlord's Plans made by Tenant pursuant to Paragraph 7 herein or that are necessary to accommodate the Tenant Improvements.

7. **CHANGES, MODIFICATIONS, OR ADDITIONS TO THE PLANS AND SPECIFICATIONS AND/OR THE PREMISES**: Any modification to the Landlord's Plans, the Tenant Production Area Improvements Plan, or other Tenant Improvements must be approved in writing by Landlord in Landlord's discretion prior to construction thereof. If Tenant requests any change(s) in the Tenant Production Area Improvements Plan, the Landlord's Plans or the Tenant Improvements, and any such requested changes are approved by Landlord in writing in Landlord's discretion, such changes shall be performed at Tenant's sole cost. Landlord shall advise Tenant promptly of any cost increases and/or delays such approved change(s) will cause in the construction of the Improvements in the form of a written change order. Tenant shall approve or disapprove any or all such change order(s) within three (3) business days after notice from Landlord of such cost increases and/or delays. To the extent Tenant disapproves any such cost increase and/or delay attributable thereto, Landlord shall have the right, in its sole discretion, to disapprove Tenant's request for such changes.

8. **TAX INCREASES DURING CONSTRUCTION PERIOD**: If prior to the Term Commencement Date there is an interim or supplemental assessment of the Premises based upon the added value of the Improvements, then, when Tenant accepts occupancy of the Premises, Tenant shall pay any interim or supplemental taxes or assessments (but no penalties or interest in connection therewith) that have been levied against the Premises and are attributable to the added value of the Improvements during the period prior to Tenant's occupancy of the Premises.

9. **MISCELLANEOUS**.

A. Landlord hereby appoints Corey Brand as Landlord's representative to act for Landlord in all matters covered by this Exhibit. Tenant hereby appoints Jeff Goodell as Tenant's representative to act for Tenant in all matters covered by this Exhibit.

B. All amounts payable by Tenant to Landlord hereunder shall be deemed to be additional Rent under the Lease and, upon any default in the payment of same, Landlord shall have all of the rights and remedies provided for in the Lease.

C. Notwithstanding anything contained herein or in the Lease to the contrary, any alterations or improvements desired by Tenant after Landlord's delivery of the Premises shall be subject to the provisions of Paragraph 12 of the Lease.

D. Neither the approval by Landlord of the Tenant Production Area Improvements Plan or of other Tenant Improvements, nor Landlord's performance, supervision or monitoring of the Improvements shall constitute any warranty by Landlord to Tenant of the adequacy of the design for Tenant's intended use of the Premises.

E. If Tenant fails to perform any of Tenant's obligations under this Construction Agreement within the time periods specified herein, Landlord may treat such failure of performance as a default under the Lease. Notwithstanding any provision to the contrary contained in the Lease, if an event of default as described in Paragraph 26 of this Lease, or a default by Tenant under this Construction Agreement, has occurred at any time on or before the Substantial Completion of the Improvements, then (i) in addition to all other rights and remedies granted to Landlord pursuant to the Lease, Landlord may cause its contractor to cease the construction of the Improvements (in which case, Tenant shall be responsible for any delay in the Substantial Completion of the Improvements caused by such work stoppage as set forth in the Lease or this Construction Agreement), and (ii) all other obligations of Landlord under the terms of this Construction Agreement shall be forgiven until such time as such default is cured pursuant to the terms of the Lease.

IN WITNESS WHEREOF, the parties have caused this Construction Agreement to be executed and made a part of the Lease as of the date first written above.

LANDLORD:

CENTREPOINTE PROPERTIES, L.L.C., a Utah limited liability company

By: /s/ Corey Brand
Name: Corey Brand
Title: Manager

Executed by Landlord this 21st day of April 2009.

TENANT:

AMEDICA CORPORATION, a Delaware corporation

By: /s/ Reyn Gallacher
Name: Reyn Gallacher
Title: CFO

Executed by Tenant this 21 day of May 2009.

EXHIBIT B-1

LANDLORD'S SCOPE OF WORK

Office Area:

1. Private Offices and Open Office Area
   a. Carpet Tiles with 4" Rubber Base.
   b. 2x4 2nd look Acoustical Ceiling System with Indirect Lighting.
   c. Painted Drywall Walls with Solid 3080 Wood Doors with Glass Sidelights.
   d. HVAC system from rooftop units. (Not greater than 5 offices/VAC Box as specified by Mechanical Contractor.)
   e. Standard outlets and lighting switches.
2. Training Conference Room
   a. Carpet Tiles with 4" Rubber Base
   b. 2x4 2nd look Acoustical Ceiling System with 2x4 Parabolic Lights and/or other Recessed Lighting.
   c. Painted Drywall Walls with Solid 3080 Wood Doors with Glass Sidelight
   d. HVAC system from roof top units (Separate VAV Box).
   e. Standard outlets and lighting switches. (Electrical for computers; projector; TV, and other tenant equipment, to be determined.)
3. IT Server
   a. VCT Flooring with 4" Rubber Base
   b. 2x4 2nd look Acoustical Ceiling System with 2x4 Parabolic Lights
   c. Painted Drywall Walls with Solid 3080 Wood Doors
   d. Standard outlets and lighting switches
   e. Separate HVAC Split-System (5 tons or less)
4. Kitchen / Buffet Area
   a. VCT Floor and 4" Rubber Base (Pattern them)
   b. 2x4 2nd look Acoustical Ceiling System with Indirect Lighting
   c. Painted Drywall Walls with Solid 3080 Wood Doors
   d. HVAC system from roof top units
   e. Standard outlets and lighting switches (Electrical for Refrigerator; Coffee Machines, Microwaves, etc.)
   f. Base and Upper cabinets with counter top
   g. Double stainless steel sink with disposal in Kitchen and single stainless steel sink in Buffet Areas (Hot/cold water.)
5. Reception Area / Conference Room
   a. Carpet tiles with 4" Rubber Base
   b. 2x4 2nd look Acoustical Ceiling System with 2x4 Parabolic Lights and/or other recessed lighting
   c. Painted Drywall Walls with Solid 3080 Wood Doors
   d. HVAC system from roof top units
   e. Standard outlets and lighting switches

6. Lunch Room
    a. VCT Floor with 4” Rubber Base
    b. 2x4 2nd Look Acoustical Ceiling System with ~~2x4 Parabolic Lights~~ Indirect Lighting.
    c. Painted Drywall Walls with Solid 3080 Wood Doors
    d. Plastic laminate Base and Upper cabinets w / Counter Top
    e. Double stainless steel sink with Disposal
    f. Water hook-ups for D/W; Vending Machines; Ice Maker; Refrigerator, etc.
    g. Re-circulating pump
    h. HVAC system from rooftop units (Separate VAV Box)
    i. Standard outlets and lighting switches (Electrical for Vending Machines; Refrigerator; Microwave(s); Coffee Machines; D/W; Ice Maker; Flat Screen TV; etc.)
7. Men’s and Women’s Restroom (All specifications shall be the same type and quality as Building” A”.)
    a. Standard Grade Ceramic Floor
    b. Painted Drywall Ceilings with 2x4 lights.
    c. Painted Drywall Walls with Solid 3080 Wood Doors
    d. Stone Slab Counter tops
    e. Stainless Steel Partitions and Accessories
    f. 6’ High Standard Grade Ceramic Wall Tile Wainscot
    g. Exhaust system
    h. Standard outlets and lighting switches
    i. Fixtures
    j. Water Heater
8. Janitor Room
    a. VCT Floor and 4” Rubber Base
    b. Exposed Ceiling with standard lights
    c. Painted Drywall Walls with Solid 3070 Metal Doors
    d. 4’ High FRP Wainscot at Janitor Sink
    e. Floor Sink/Drain
9. Elevator Equipment Room
    a. Sealed Concrete Floor
    b. Exposed Ceiling
    c. Painted Drywall Walls with Solid 3070 Metal Doors
10. Cubicle Areas
    a. Carpet Tiles with 4” Rubber Base
    b. 2x4 2nd look Acoustical Ceiling System with Indirect Lights
    c. Painted Drywall Walls
    d. HVAC system from roof top units (Not greater than 5 offices/VAV Box as specified by Mechanical Contractor)
    e. Standard outlets and lighting switches

11. Copy Center
    a. Carpet Tiles with 4” Rubber Base
    b. 2x4 2nd look Acoustical Ceiling System with 2x4 Parabolic Indirect Lights
    c. Painted Drywall Walls with Solid 3080 Wood Doors
    d. HVAC system from roof top units. (Separate VAV Box)
    e. Standard outlets to support typical Copy Center equipment and lighting switches
    f. Base and Upper cabinets with Counter Top
12. Lobby (Similar quality and design of Building A)
    a. Ceramic Tile Floor
    b. Painted Drywall Ceiling
    c. Painted Drywall Walls with Solid 3080 Wood Doors
    d. 3’ x 15’ Glass Transom along west wall
    e. Wood paneling at elevator wall
    f. HVAC system from roof top units
    g. Standard outlets and lighting switches
    h. Elevator start up
13. Lobby Stairs
    a. Stone slab treads
    b. Stainless steel and glass handrail system up stairs.
14. Vestibule
    a. Walk-Off Matt
    b. Painted Drywall and Exposed Beams
    c. Painted Drywall Walls with Glass Storefront Windows and Doors
15. General Notes
    a. All Landlord Office Area Improvements and finishes shall be of similar look and comparable quality to the NPS Pharmaceuticals Tenant Improvements
    b. The Men’s and Women’s Restroom; Janitor Room; Elevator Equipment Room and Lobby; Lobby Stairs and Vestibule shall be of similar look and comparable quality and design as Building “A”
    c. A 4’ Drywall light tunnel will be constructed on 2nd floor of office area at transom windows along the south wall. (2 locations)
    d. 13 of the “office” doors noted above will be a rough opening only to accommodate Tenant furnished sliding doors. Tenant shall provide the rough opening size. Landlord to pay for installing doors.
    e. Exterior walls will receive 4” batt insulation.
    f. Restroom walls will receive 4” sound insulation.
    g. Hollow metal and wood doors shall receive standard hardware with a painted hollow metal frame.
    h. General Conditions for Landlord’s Scope
    i. Final Cleaning for Landlord’s Scope
    j. Plastic Laminate Base and Upper Cabinet with Counter Top and stainless steel sink at Coffee Locations (2 locations)
    k. Fire extinguishers in painted metal cabinets

l. Fire suppression system will be a Light Hazard Occupancy

m. General office area ceiling height will be at 10’

n. Domestic water lines will not be insulated

o. Life safety items such as exit signs, emergency exit signs, fire alarm system

p. ADA required fixtures

q. Snow melt system at north entry ways

r. Landscaping as required by code

s. Monument sign (without signage)

t. Any upgrades or changes to Landlord’s TI specifications shall be at Tenants sole cost and expense

u. Carpet Tile with 4” Rubber Base throughout Office Areas except for Kitchen; Lunch Room; and I.T. Server Room which shall be VCT Tile Flooring

PRODUCTION AREA:

1. Maintenance / Spare Parts

    a. $3 / SF Flooring Allowance with 4” Rubber Base

    b. 2x4 Flat Acoustical Ceiling at 12’ high with 2x4 flat acrylic lights

    c. Painted drywall walls with 3070 painted hollow metal door.

    d. HVAC system from roof top units and distribution.

    e. Standard outlets and lighting switches.

2. R&D / Testing

    a. $3 / SF Epoxy Flooring Allowance with 4” Rubber Base

    b. 2x4 Flat Acoustical Ceiling at 12’ high with 2x4 flat acrylic lights

    c. Painted drywall walls with 3070 painted hollow metal door.

    d. HVAC system from roof top units.

    e. Standard outlets and lighting switches.

3. Shower

    a. Standard Grade Ceramic Tile Floor with Cultured Marble Shower Insert

    b. Painted Drywall ceiling with standard recessed lights

    c. Painted drywall walls with 3070 painted hollow metal door.

4. Restroom / Locker Rooms

    a. Standard Grade Ceramic Tile Floor with 4” Rubber Base

    b. Painted Drywall ceiling with standard lights.

    c. Painted drywall walls with 3070 painted hollow metal door.

    d. Plastic Laminate Vanity with Sinks (Hot and Cold water).

    e. 8’ FRP will be installed at “wet” walls.

    f. Painted Metal Toilet Partitions with standard grade toilet accessories

    g. Exhaust system

    h. Water heater

    i. Fixtures

    j. 1’ x 4’ standard wood bench in each locker room

5. Janitor Room
    a. Sealed Concrete Floors
    b. Unpainted Finished Structure
    c. Painted drywall walls with 3070 painted hollow metal door.
    d. 4’ high FRP wainscot at janitor sinks.
    e. Floor sink/drain.
6. Quality Control
    a. $3 / SF Flooring Allowance with 4” Rubber Base
    b. 2x4 Flat Acoustical Ceiling at 12’ high
    c. Painted drywall walls with 3070 painted hollow metal door.
    d. Plastic Laminate Base Cabinet with Counter Top
    e. HVAC system from roof top units.
    f. Standard outlets and lighting switches
7. RMA
    a. $3 / SF Flooring Allowance with 4” Rubber Base
    b. 2x4 Flat Acoustical Ceiling at 12’ high
    c. Painted drywall walls with 3070 painted hollow metal door.
    d. Plastic Laminate Base Cabinet with Counter Top
    e. HVAC system from roof top units.
    f. Standard outlets and lighting switches
8. Inventory Storage
    a. $3 / SF Flooring Allowance with 4” Rubber Base
    b. 2x4 Flat Acoustical Ceiling at 12’ high
    c. Painted drywall walls with 3070 painted hollow metal door.
    d. HVAC system from roof top units.
    e. Standard outlets and lighting switches
9. Clean Packaging
    a. $3 / SF Flooring Allowance with 4” Rubber Base
    b. 2x4 Flat Acoustical Ceiling at 12’ high
    c. Painted drywall walls with 3070 painted hollow metal door.
    d. HVAC system from roof top units.
    e. Standard outlets and lighting switches
10. Shipping / Receiving
    a. Sealed Concrete Floors
    b. Unpainted Exposed Structure
    c. Painted drywall walls with 3070 painted hollow metal door.
    d. 12’ x 10’ Overhead Metal Door
    e. Unit heaters
    f. Standard outlets and lighting switches
    g. 1 each set of dock seals, hydraulic 20,000 lb levelers, dock lock
11. Powder Room
    a. $3 / SF Flooring Allowance with 4” Rubber Base

b. 2x4 Flat Acoustical Ceiling. Height will be located as high as possible

c. Painted drywall walls with 3070 painted hollow metal door.

d. HVAC system from roof top units.

e. Standard outlets and lighting switches

12. General

a. $3.00 per square foot Flooring Allowance per room excluding Shower; Restroom; Locker; Shipping/Receiving which shall be as indicated above.

b. Exterior walls will receive 4" batt insulation. Above exterior wall studs, wall will receive 1 ¼" rigid vinyl wall board.

c. Restroom walls will receive 4" sound insulation.

d. Hollow metal doors shall receive standard hardware with a painted hollow metal frame.

e. General Conditions for Landlord's Scope

f. Final Cleaning for Landlord's Scope

g. Fire extinguisher in painted metal recessed cabinets.

h. The fire suppression system will be an Ordinary Hazard Group Two Occupancy, extended coverage.

i. Any upgrades or changes to Landlord's TI specifications shall be at Tenants sole cost and expense.

EXHIBIT B-2

TENANT'S SCOPE OF WORK

Office Area:

1. General Notes
   - a. General Conditions for Tenant's Scope
   - b. Final Cleaning for Tenant's Scope
   - c. 8% overhead and Fee for Tenant's Scope
   - d. Any upgrades or changes to Landlord's TI specifications shall be at Tenants sole cost and expense
   - e. Security system
   - f. Card access system
   - g. Phone / Data / Networking
   - h. All equipment, furnishings, tenant specific fixtures, etc., required to conduct business functions and production

Production Area:

1. Mechanical and Electrical
   - a. All costs, including piping, concrete, etc., associated with mechanical and electrical systems and upgrades required for production area equipment including and not limited to:
     - i. Sand and Oil Separator
     - ii. Trench Drains
     - iii. Floor Drains (for tenants FF&E)
     - iv. Water Supplies
     - v. Exhaust Systems
     - vi. Collection System
     - vii. Disconnects
     - viii. VFD's
     - ix. Pumps
     - x. Generators
     - xi. Compressors
     - xii. Chillers
     - xiii. Fans
     - xiv. Air tanks and lines
     - xv. Nitrogen tanks and lines
     - xvi. Eyewash
     - xvii. Water heater at Powder area
     - xviii. Floor sinks (for tenants FF&E)
     - xix. Chilled water insulation
   - b. MEP for future equipment will not be run at this time

2. Structural upgrades to roof system required.

3. Tenant shall furnish:

    a. All Production Equipment / Machinery / Tools
    b. Generator (s)
    c. Air Compressors
    d. Air Compressor Storage Tank
    e. Pumps with frequency drives
    f. Chillers with control packages, VFD’s, with built in lockable disconnects.
    g. Air separator for chiller
    h. Fans
    i. HEPA Fans
    j. Welders
    k. Chiller Expansion Tank
    I. Nitrogen Tank and Manifold
    m. 6 Hoods and 6 exhaust fans for hoods
    n. Welding station portable exhaust hood
    o. 2 – bag house exhaust fans
    p. Reverse osmosis equipment
    q. Fabric Quick-Up Doors
    r. Furniture
    s. Lockers
    t. Sliding Doors
    u. Clear plastic separation curtains
    v. Appliances
    w. IT Racking
    x. Phones
    y. Emergency Eye Washes (3)
    z. Sinks other than restrooms and janitor rooms
    aa. Electrical upgrade from existing service

4. Powder / Clean room Ceiling

    a. Upgrade from standard 2x4 flat tile to a clean room tile system

5. Quality Control

    a. Hot water Heater
    b. 3 compartment sink

6. RMA

    a. Hot water Heater
    b. 2 compartment sink

7. General

   a. General Conditions for Tenant’s Scope

   b. Final Cleaning for Tenant’s Scope

   c. 8% over head and Fee for Tenant’s Scope

   d. Any upgrades or changes to Landlord’s TI specifications shall be at Tenants sole cost and expense

   e. Saw cut and replace concrete for mechanical/plumbing and electrical systems

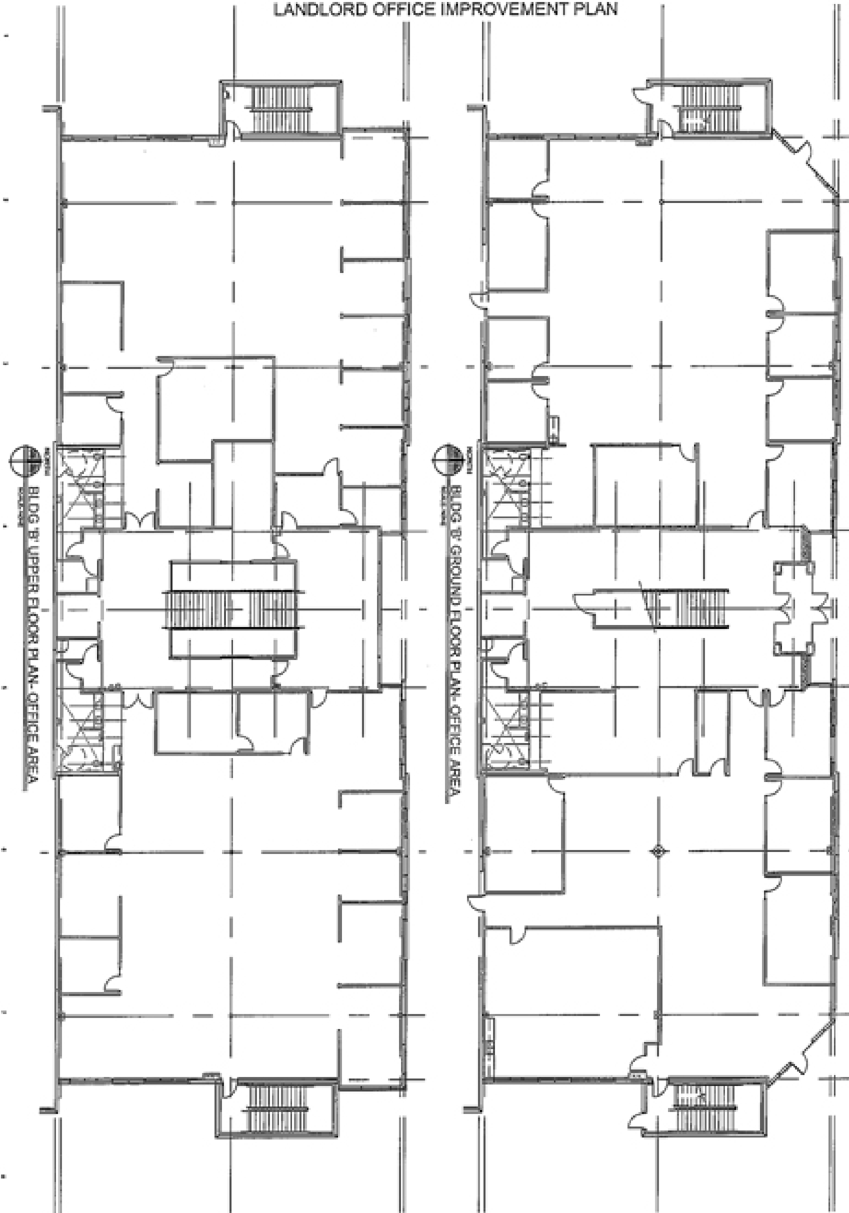
   f. All mechanical to process equipment will be terminated 5’ from floor with a ball valve

   g. Final Cleaning during and after move in

   h. Repairing damages caused during move-in

EXHIBIT B3

LANDLORD OFFICE IMPROVEMENT PLAN



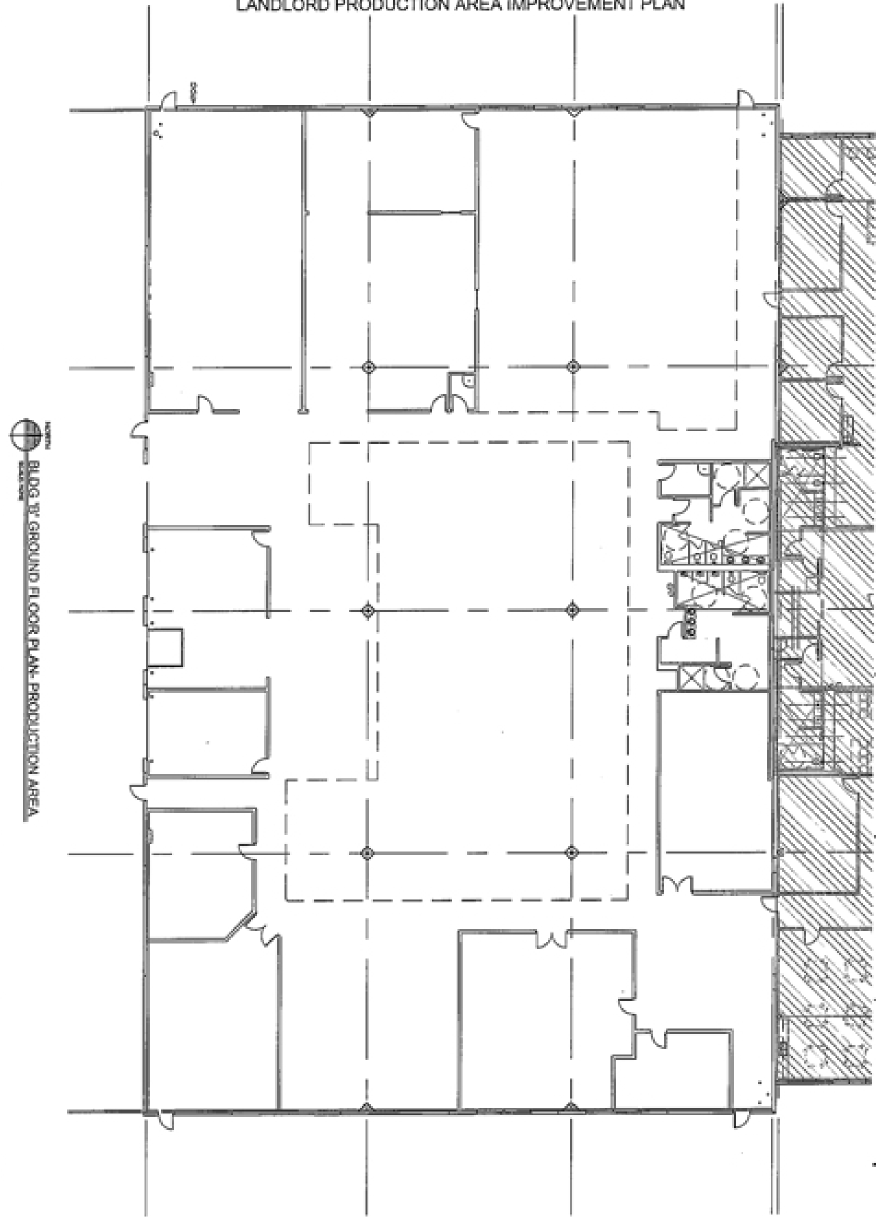
B3

AMEDICA SCHEME A.4
@
CENTERPOINTE BUILDING 'B'
BUILDING B SITE PLAN UT 84119

dave robinson architects
5465 South 3000 East
Salt Lake City, Utah 84121
Suite 102
801-272-0242

EXHIBIT B4

LANDLORD PRODUCTION AREA IMPROVEMENT PLAN



B4

AMEDICA - SCHEME A.4
OFFICE AREA PHASE ONE @
CENTERPOINTE BUILDING 'B'
1885 WEST 2100 SOUTH, SALT LAKE CITY, UT 84119

dave robinson architects
8465 South 3000 East
Salt Lake City, Utah 84121
Suite 102
801-272-0242

EXHIBIT B5

TENANT OFFICE AREA IMPROVEMENT PLAN

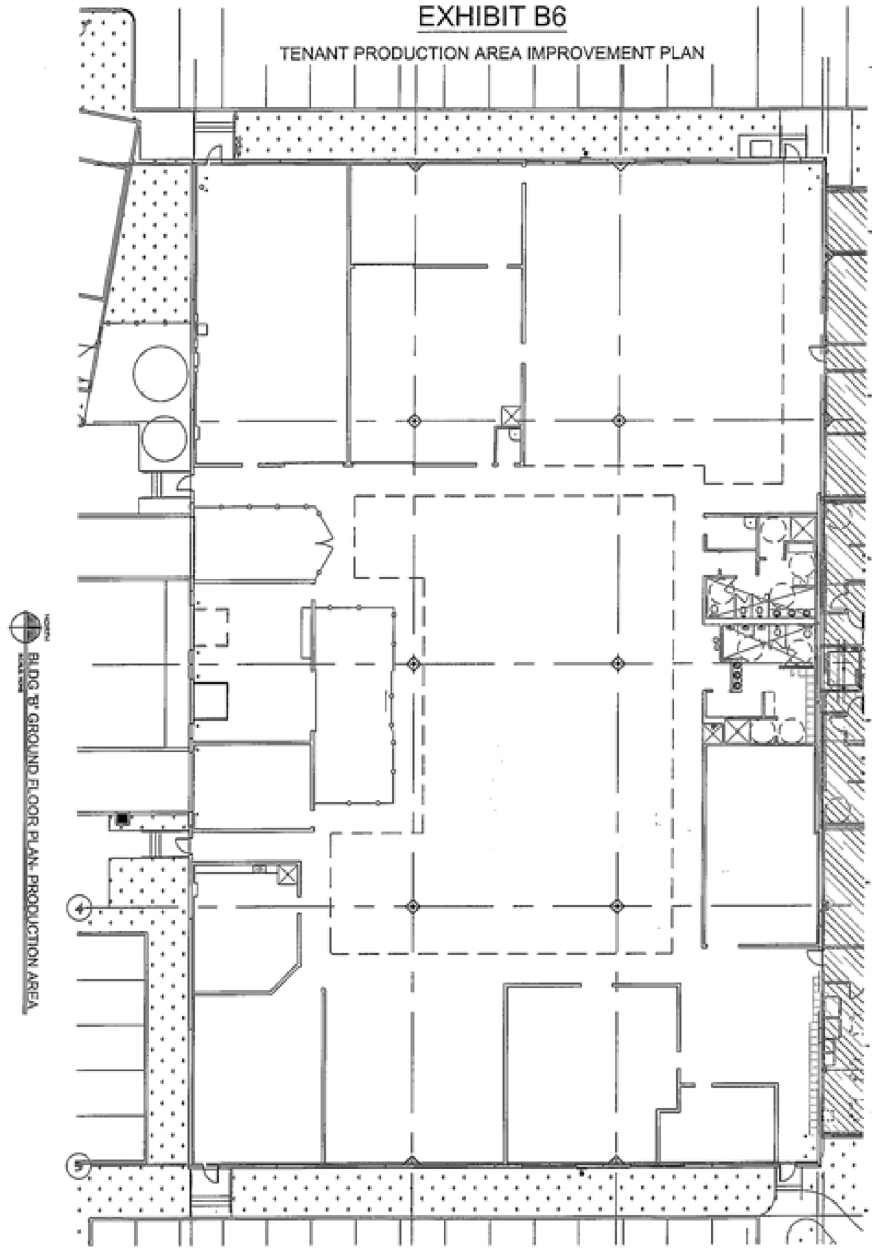
BLDG 'B' UPPER FLOOR PLAN- OFFICE AREA

BLDG 'B' GROUND FLOOR PLAN- OFFICE AREA

B5

AMEDICA SCHEME A.4
@
CENTERPOINTE BUILDING 'B'
BUILDING B SITE PLAN

dave robinson architects
6465 South 3000 East
Suite 102
Salt Lake City, Utah 84121
801-273-0342



B6

AMEDICA - SCHEME A.4
OFFICE AREA PHASE ONE @
CENTERPOINTE BUILDING 'B'
1885 WEST 2100 SOUTH, SALT LAKE CITY, UT 84119

dave robinson architects
6465 South 3000 East, Suite 102
Salt Lake City, Utah 84121
801-272-0242

EXHIBIT C

RULES AND REGULATIONS

The rules and regulations set forth in this Exhibit shall be and hereby are made a part of the Lease (the "Lease") to which they are attached. Whenever the term "Tenant" is used in these rules and regulations, it shall be deemed to include Tenant, Tenant's Parties and any other persons permitted by Tenant to occupy or enter the Premises. The following rules and regulations may from time to time be modified by Landlord.

1. **Obstruction**. The sidewalks, driveways, parking areas, and other facilities of the Project shall be controlled by Landlord and shall not be obstructed by Tenant or used for any purpose other than ingress or egress to and from the Premises. Tenant shall not place any item in any of such locations, whether or not any such item constitutes an obstruction, without the prior written consent of Landlord. Landlord shall have the right to remove any obstruction or any such item without notice to Tenant and at the expense of Tenant.

2. **Deliveries**. Tenant shall insure that all deliveries of supplies to the Premises shall be made only through such access as may be designated by Landlord for deliveries. If any person delivering supplies to Tenant damages any part of the Project, Tenant shall pay to Landlord upon demand the amount to repair such damages.

3. **Moving**. Furniture and equipment shall be moved in or out of the Building and the Project only through such access as may be designated by Landlord for deliveries. If Tenant's movers damage any part of the Building or the Project, Tenant shall pay to Landlord upon demand the amount required to repair such damage.

4. **Project Security**. Landlord may require identification of persons entering and leaving the Project during the period outside of the ordinary business hours of the Project and, for this purpose, may issue building passes to tenants of the Project. In case of invasion, mob, riot, public excitement, or other commotion, Landlord reserves the right to prevent access to the Project during the continuance of the same by the closing of the doors or otherwise for the safety of the tenants and protection of property in the Project and the Building.

5. **Hazardous Operations and Items**. Tenant shall not install or operate any steam or gas engine or boiler, or carry on any mechanical business in the Premises without Landlord's prior written consent, which consent may be withheld in Landlord's absolute discretion. The use of oil, gas or inflammable liquids for heating, lighting or any other purpose is expressly prohibited. Explosives or other articles deemed ultrahazardous shall not be brought onto the Subject Property.

6. **No Defacing of Premises**. Except as permitted by Landlord by prior written consent, Tenant shall not mark upon, paint signs upon, cut, drill into, drive nails or screws into, or in any way deface the walls, ceilings, partitions or floors of the Premises, the Building or the Project and any defacement, damage or injury directly or indirectly caused by Tenant shall be paid for by Tenant.

7. **Exclusion**. Landlord reserves the right to exclude or expel from the Project any persons who, in the judgment of Landlord is intoxicated or under the influence of liquor or drugs or who shall in any manner do any act in violation of the Rules and Regulations of the Project.

8. **Signs**. No sign, placard, picture, advertisement, name or notice shall be inscribed, displayed, printed or affixed on or to any part of the outside of the Building, the Premises or the Project without the

prior written consent of Landlord and Landlord shall have the right to remove any such sign, placard, picture, advertisement, name or notice at the expense of Tenant, if unauthorized, and at the end of the Term of the Lease, if authorized. All approved signs of lettering on doors shall be printed, painted affixed or inscribed at the expense of Tenant by a person approved by Landlord.

9. **Fire/Security**. Tenant agrees that it shall comply with all fire and security regulations that may be issued from time to time by Landlord and Tenant also shall provide Landlord with the name of a designated responsible employee to represent Tenant in all matters pertaining to such fire or security regulations.

10. **Regulations**. Landlord reserves the right by written notice to Tenant, to rescind, alter or waive any rule or regulation at any time prescribed for the Project when, in Landlord's judgment, it is necessary, desirable or proper for the best interest of the Project and its tenants.

11. **Miscellaneous**. Tenant and Tenant's employees agree to refrain from parking in areas designated by Landlord for the temporary use of visitors to the Project. Parking spaces within the Project shall be used for parking by vehicles no larger than full-size passenger automobiles or pick-up trucks, herein called "Permitted Size Vehicles." Vehicles other than Permitted Size Vehicles shall be parked and loaded or unloaded as directed by Landlord in its sole discretion. Tenant shall not permit or allow any vehicles that belong to or are controlled by Tenant or Tenant's employees, suppliers, shippers, customers, contractors or invitees to be stored, loaded, unloaded, or parked in areas other than those designated by Landlord for such activities. If Tenant permits or allows any of the prohibited activities described herein or in the Lease, then Landlord shall have the right, without notice, in addition to such other rights and remedies that it may have, to remove or tow away the vehicle involved and charge the cost to Tenant, which cost shall be immediately payable upon demand by Landlord. Outside storage is strictly prohibited in the Common Areas. Parking areas, loading zones, and vacant property adjoining the Building (together with any areas of the Project in which Tenant's employees, agents, or invitees park vehicles or otherwise congregate) are to be kept vacant and clean by Tenant. Landlord shall give Tenant seventy-two (72) hours written notice of the need to clean up or remedy any condition which may originate during the Term. In the event Tenant violates this provision and such violation continues for three (3) days after written notice to Tenant (or at any time with or without notice, if such failures endanger public health or safety), Landlord may remediate the condition and charge Tenant the cost thereof. Tenant shall not display or sell merchandise or allow carts, tables, portable signs, devices, or any other objects to be stored, displayed or to remain outside the defined exterior walls, roof or permanent doorways of the Premises, or in driveways, parking areas or sidewalks.

ATTACHMENT A

Acknowledgment of Actual Term Commencement Date, Actual Termination Date, Actual RSF of Premises, and Actual Base Rental Amounts

Pursuant to that certain Lease (the "Lease"), dated as of the 21st day of April, 2009, between CENTREPOINTE PROPERTIES, LLC, a Utah limited liability company ("Landlord"), and AMEDICA CORPORATION, a Delaware Corporation ("Tenant"). Landlord and Tenant hereby acknowledge and agree as follows:

1. The actual Term Commencement Date of the Lease is , 20 .

2. The actual Termination Date of the Lease is , 20 .

3. The actual RSF of the Premises is .

4. The actual monthly Base Rent payable on the 1st day of each month during the Initial Term of the Lease is as follows:

Months of Lease:	Base Rent Per Month:

DATED as of the day of , 20 .

LANDLORD:

CENTREPOINTE PROPERTIES, L.L.C., a Utah limited liability company

By: ____________________
Name: ____________________
Title: ____________________

Executed by Landlord this day of , 20 .

TENANT:

AMEDICA CORPORATION, a Delaware corporation

By: ____________________
Name: ____________________
Title: ____________________
Executed by Tenant this day of , 20 .

Exhibit 10.11

FIRST ADDENDUM TO
CENTREPOINTE BUSINESS PARK LEASE AGREEMENT NET

This First Addendum to Centrepointe Business Park Lease Agreement Net (this "Addendum") is entered into as of January 31, 2012 between Centrepointe Properties, LLC ("Landlord") and Amedica Corporation ("Tenant").

BACKGROUND

A. Landlord and Tenant entered into that certain Centrepointe Business Park Lease Agreement Net (the "Lease") dated April 21, 2009 between Landlord and Tenant whereby Landlord leased to Tenant space in that certain building identified as Building B and located at 1885 West 2100 South, Salt Lake City, Utah, comprising a total of approximately 54,428 rentable square feet.

B. The parties now desire to amend Section 19 of the Lease related to the Security Deposit (as defined in the Lease) to retain $35,000 of the Security Deposit (instead of surrendering the entire security deposit) for the purpose of creating a Restoration Deposit (as defined below) in regard to restoration obligations of the Tenant at the end of the Term and to add a new provision related to the Restoration Deposit.

C. The parties also desire to allow for proposed Alterations to be approved by written consent via email.

TERMS

NOW, THEREFORE, in consideration of the mutual agreements herein contained, the Landlord and Tenant agree to amend the Lease as follows:

1. Definitions. Capitalized terms used in this Addendum but not otherwise defined have the respective meanings set forth in the Lease.

2. Restoration Deposit. Concurrently with the execution of this Addendum, Landlord shall refund to Tenant $100,000 of the Security Deposit (the "Refund"). The Refund shall be deemed a full refund of the Security Deposit by Landlord with the remaining $35,000 to be deemed a new restoration deposit (the "Restoration Deposit") made by the Tenant. The Restoration Deposit shall be in addition to and separate from the Security Deposit. If Tenant defaults with respect to the restoration obligations of the Tenant contained in Section 12 (Alterations) and elsewhere in the Lease, Landlord may (but shall not be required to) use, apply or retain all or any part of the Restoration Deposit for the payment of costs associated with Tenant's breach of Tenant's restoration obligations under the Lease. This Addendum and the Restoration Deposit shall not in any way limit Tenant's restoration or other obligations under the Lease. Landlord shall not be required to keep the Restoration Deposit separate from its general funds, and Tenant shall not be entitled to interest on the Restoration Deposit. Provided that Tenant has fulfilled all Tenant's restoration obligations under the Lease and is not then in default of any of Tenant's restoration obligations, and shall not have defaulted, under any of the restoration provisions of the Lease without curing such default pursuant to the terms and

conditions contained in the Lease, the Restoration Deposit shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) upon the completion of Tenant's restoration obligations upon the expiration of the Term.

3. Notice of and Consent to Alternations. Notwithstanding anything to the contrary in the Lease, the written consent of Landlord related to Alterations contemplated by Section 12.1 of the Lease may be obtained by email. Tenant may request consent to a proposed Alteration by sending an email with a reasonable description of the proposed Alteration (including, without limitation, applicable drawings, specifications, and bids, if any) to the Landlord. The email should be sent to Corey Brand at corey@portfolioinvestments.com or Scott Brand at scott@portfolioinvestments.com or such other email addresses as the Landlord may instruct from time to time by email or other writing. The proposed Alteration shall be deemed approved by Landlord only when a reply to the requesting email is received from either Corey Brand or Scott Brand indicating the proposed Alteration is "approved" or using other similar language. The Landlord approval shall be valid for only the proposed Alteration as described in the requesting email. The notice and consent process contemplated by this Section 3 is in addition to other methods allowed under the Lease and relates only to Alterations pursuant to Section 12.1 of the Lease. Nothing in this Section 3 shall have any impact on any other notice or consent requirement in the Lease. Landlord acknowledges and agrees that as of the date of this Addendum, all Alterations made prior to the date of this Addendum are deemed to have been completed with the written consent of the Landlord.

4. Additional Documents and Acts. The parties shall from time to time execute and deliver such additional documents and instruments, including additional amendments to the Lease, and shall perform such additional acts as may be necessary or desirable to effect, carry out, or perform the terms, provisions, or conditions or any of the transactions contemplated by this Addendum or by the Lease as amended by this Addendum.

5. Other Terms Unchanged. This Addendum constitutes an amendment to the Lease. The Lease, as amended by this Addendum, remains and continues in full force and effect, constitutes a legal, valid, and binding obligation of the parties, and is in all respects agreed to, ratified, and confirmed. Any reference to the Lease after the date of this Addendum is deemed to be a reference to the Lease as amended by this Addendum.

6. Governing Law. This Addendum shall be governed by and construed in accordance with the internal laws of the state of Utah, without giving effect to any of its conflicts of law rules or principles.

7. Counterparts. This Addendum may be executed and delivered in one or more counterparts, and by the different parties to this Addendum in separate counterparts, each of which when executed and delivered is deemed to be an original but all of which taken together constitute one and the same agreement. Counterparts and signatures transmitted by facsimile or other electronic means are valid as originals.

IN WITNESS WHEREOF, the undersigned have executed and delivered this First Addendum to Centrepointe Business Park Lease Agreement Net as of the day and year first above written.

LANDLORD:

CENTREPOINTE PROPERTIES, LLC

/s/ Corey Brand
Corey Brand
Manager

TENANT:

AMEDICA CORPORATION

/s/ Reyn Gallacher
Name: Reyn Gallacher
Title: CFO

SIGNATURE PAGE TO FIRST ADDENDUM TO CENTREPOINTE BUSINESS PARK LEASE AGREEMENT NET

Exhibit 10.19

AMEDICA CORPORATION

2003 STOCK OPTION PLAN

1. DEFINITIONS.

Unless otherwise specified or unless the context otherwise requires, the following terms, as used in this **Amedica Corporation** 2003 Stock Option Plan, have the following meanings:

Administrator means the Board of Directors, unless it has delegated power to act on its behalf to the Committee, in which case the Administrator means the Committee.

Affiliate means a corporation which, for purposes of Section 424 of the Code, is a parent or subsidiary of the Company, direct or indirect.

Board of Directors means the Board of Directors of the Company.

Code means the United States Internal Revenue Code of 1986, as amended.

Committee means the committee of the Board of Directors to which the Board of Directors has delegated power to act under or pursuant to the provisions of the Plan.

Common Stock means shares of the Company's common stock, $.01 par value per share.

Company means Amedica Corporation, a Delaware corporation.

Disability or Disabled means permanent and total disability as defined in Section 22(e)(3) of the Code.

Employee means any employee of the Company or of an Affiliate (including, without limitation, an employee who is also serving as an officer or director of the Company or of an Affiliate), designated by the Administrator to be eligible to be granted one or more Options under the Plan.

Fair Market Value of a Share of Common Stock means:

(1) If the Common Stock is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the Common Stock, the closing or last price of the Common Stock on the Composite Tape or other comparable reporting system for the trading day immediately preceding the applicable date;

(2) If the Common Stock is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the Common Stock for the trading day referred to in clause (1), and if bid and asked prices for the Common Stock are regularly reported, the mean between the bid and the asked price for the Common Stock at the close of trading in the over-the-counter market for the trading day on which Common Stock was traded immediately preceding the applicable date; and

(3) If the Common Stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Administrator, in good faith, shall determine.

ISO means an option meant to qualify as an incentive stock option under Section 422 of the Code.

Non-Qualified Option means an option which is not intended to qualify as an ISO.

Option means an ISO or Non-Qualified Option granted under the Plan.

Option Agreement means an agreement between the Company and a Participant delivered pursuant to the Plan, in such form as the Administrator shall approve.

Participant means an Employee, director or consultant of the Company or an Affiliate to whom one or more Options are granted under the Plan. As used herein, "Participant" shall include "Participant's Survivors" where the context requires.

Plan means this Amedica Corporation 2003 Stock Option Plan.

Shares means shares of the Common Stock as to which Options have been or may be granted under the Plan or any shares of capital stock into which the Shares are changed or for which they are exchanged within the provisions of Paragraph 3 of the Plan. The Shares issued upon exercise of Options granted under the Plan may be authorized and unissued shares or shares held by the Company in its treasury, or both.

Survivor means a deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to an Option by will or by the laws of descent and distribution.

2. PURPOSES OF THE PLAN.

The Plan is intended to encourage ownership of Shares by Employees and directors of and certain consultants to the Company in order to attract such people, to induce them to work for the benefit of the Company or of an Affiliate and to provide additional incentive for them to promote the success of the Company or of an Affiliate. The Plan provides for the granting of ISOs and Non-Qualified Options.

3. SHARES SUBJECT TO THE PLAN.

The number of Shares which may be issued from time to time pursuant to this Plan shall be 4,000,000, or the equivalent of such number of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 16 of the Plan.

If an Option ceases to be “outstanding”, in whole or in part, the Shares which were subject to such Option shall be available for the granting of other Options under the Plan. Any Option shall be treated as “outstanding” until such Option is exercised in full, or terminates or expires under the provisions of the Plan, or by agreement of the parties to the pertinent Option Agreement.

4. ADMINISTRATION OF THE PLAN.

The Administrator of the Plan will be the Board of Directors, except to the extent the Board of Directors delegates its authority to the Committee, in which case the Committee shall be the Administrator. Subject to the provisions of the Plan, the Administrator is authorized to:

a. Interpret the provisions of the Plan or of any Option or Option Agreement and to make all rules and determinations which it deems necessary or advisable for the administration of the Plan;

b. Determine which Employees, directors and consultants shall be granted Options;

c. Determine the number of Shares for which an Option or Options shall be granted;

d. Specify the terms and conditions upon which an Option or Options may be granted; and

e. Adopt any sub-plans applicable to residents of any specified jurisdiction as it deems necessary or appropriate in order to comply with or take advantage of any tax laws applicable to the Company or to Plan Participants or to otherwise facilitate the administration of the Plan, which sub-plans may include additional restrictions or conditions applicable to Options or Shares acquired upon exercise of Options.

provided, however, that all such interpretations, rules, determinations, terms and conditions shall be made and prescribed in the context of preserving the tax status under Section 422 of the Code of those Options which are designated as ISOs. Subject to the foregoing, the interpretation and construction by the Administrator of any provisions of the Plan or of any Option granted under it shall be final, unless otherwise determined by the Board of Directors, if the Administrator is the Committee. In addition, if the Administrator is the Committee, the Board of Directors may take any action under the Plan that would otherwise be the responsibility of the Committee.

If permissible under applicable law, the Board of Directors or the Committee may allocate all or any portion of its responsibilities and powers to any one or more of its members and may delegate all or any portion of its responsibilities and powers to any other person selected by it. Any such allocation or delegation may be revoked by the Board of Directors or the Committee at any time.

5. ELIGIBILITY FOR PARTICIPATION.

The Administrator will, in its sole discretion, name the Participants in the Plan, provided, however, that each Participant must be an Employee, director or consultant of the Company or of an Affiliate at the time an Option is granted. Notwithstanding the foregoing, the Administrator may authorize the grant of an Option to a person not then an Employee, director or consultant of the Company or of an Affiliate; provided, however, that the actual grant of such Option shall be conditioned upon such person becoming eligible to become a Participant at or prior to the time of the execution of the Option Agreement evidencing such Option. ISOs may be granted only to Employees. Non-Qualified Options may be granted to any Employee, director or consultant of the Company or an Affiliate. The granting of any Option to any individual shall neither entitle that individual to, nor disqualify him or her from, participation in any other grant of Options.

6. TERMS AND CONDITIONS OF OPTIONS.

Each Option shall be set forth in writing in an Option Agreement, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Administrator may provide that Options be granted subject to such terms and conditions, consistent with the terms and conditions specifically required under this Plan, as the Administrator may deem appropriate including, without limitation, subsequent approval by the shareholders of the Company of this Plan or any amendments thereto. The Option Agreements shall be subject to at least the following terms and conditions:

A. Non-Qualified Options: Each Option intended to be a Non-Qualified Option shall be subject to the terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards for any such Non-Qualified Option:

   a. Option Price: Each Option Agreement shall state the option price per share of the Shares covered by each Option, which option price shall be determined by the Administrator but shall not be less than the par value per share of Common Stock.

b. Each Option Agreement shall state the number of Shares to which it pertains;

c. Each Option Agreement shall state the date or dates on which it first is exercisable and the date after which it may no longer be exercised, and may provide that the Option rights accrue or become exercisable in installments over a period of months or years, or upon the occurrence of certain conditions or the attainment of stated goals or events; and

d. Exercise of any Option may be conditioned upon the Participant's execution of a Share purchase agreement in form satisfactory to the Administrator providing for certain protections for the Company and its other shareholders, including requirements that:

i. The Participant's or the Participant's Survivors' right to sell or transfer the Shares may be restricted; and

ii. The Participant or the Participant's Survivors may be required to execute letters of investment intent and must also acknowledge that the Shares will bear legends noting any applicable restrictions.

B. ISOs: Each Option intended to be an ISO shall be issued only to an Employee and be subject to the following terms and conditions, with such additional restrictions or changes as the Administrator determines are appropriate but not in conflict with Section 422 of the Code and relevant regulations and rulings of the Internal Revenue Service:

a. Minimum standards: The ISO shall meet the minimum standards required of Non-Qualified Options, as described in Paragraph 6(A) above.

b. Option Price: Immediately before the ISO is granted, if the Participant owns, directly or by reason of the applicable attribution rules in Section 424(d) of the Code:

i. 10% or less of the total combined voting power of all classes of stock of the Company or an Affiliate, the Option price per share of the Shares covered by each ISO shall not be less than 100% of the Fair Market Value per share of the Shares on the date of the grant of the Option; or

ii. More than 10% of the total combined voting power of all classes of stock of the Company or an Affiliate, the Option price per share of the Shares covered by each ISO shall not be less than 110% of the said Fair Market Value on the date of grant.

c. Term of Option: For Participants who own:

i. 10% or less of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than ten years from the date of the grant or at such earlier time as the Option Agreement may provide; or

ii. More than 10% of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than five years from the date of the grant or at such earlier time as the Option Agreement may provide.

d. Limitation on Yearly Exercise: The Option Agreements shall restrict the amount of ISOs which may become exercisable in any calendar year (under this or any other ISO plan of the Company or an Affiliate) so that the aggregate Fair Market Value (determined at the time each ISO is granted) of the stock with respect to which ISOs are exercisable for the first time by the Participant in any calendar year does not exceed $100,000.

7. EXERCISE OF OPTIONS AND ISSUE OF SHARES.

An Option (or any part or installment thereof) shall be exercised by giving written notice to the Company or its designee, together with provision for payment of the full purchase price in accordance with this Paragraph for the Shares as to which the Option is being exercised, and upon compliance with any other condition(s) set forth in the Option Agreement. Such notice shall be signed by the person exercising the Option, shall state the number of Shares with respect to which the Option is being exercised and shall contain any representation required by the Plan or the Option Agreement. Payment of the purchase price for the Shares as to which such Option is being exercised shall be made (a) in United States dollars in cash or by check, or (b) at the discretion of the Administrator, through delivery of shares of Common Stock having a Fair Market Value equal as of the date of the exercise to the cash exercise price of the Option and held for at least six months, or (c) at the discretion of the Administrator, by delivery of the grantee's personal note, for full, partial or no recourse, bearing interest payable not less than annually at market rate on the date of exercise and at no less than 100% of the applicable Federal rate, as defined in Section 1274(d) of the Code, with or without the pledge of such Shares as collateral, or (d) at the discretion of the Administrator, in accordance with a cashless exercise program established with a securities brokerage firm, and approved by the Administrator, or (e) at the discretion of the Administrator, by any combination of (a), (b), (c) and (d) above. Notwithstanding the foregoing, the Administrator shall accept only such payment on exercise of an ISO as is permitted by Section 422 of the Code.

The Company shall then reasonably promptly deliver the Shares as to which such Option was exercised to the Participant (or to the Participant's Survivors, as the case may be). In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance. The Shares shall, upon delivery, be fully paid, non-assessable Shares.

The Administrator shall have the right to accelerate the date of exercise of any installment of any Option; provided that the Administrator shall not accelerate the exercise date of any installment of any Option granted to any Employee as an ISO (and not previously converted into a Non-Qualified Option pursuant to Paragraph 19) if such acceleration would violate the annual vesting limitation contained in Section 422(d) of the Code, as described in Paragraph 6.B.d.

The Administrator may, in its discretion, amend any term or condition of an outstanding Option provided (i) such term or condition as amended is permitted by the Plan, (ii) any such amendment shall be made only with the consent of the Participant to whom the Option was granted, or in the event of the death of the Participant, the Participant's Survivors, if the amendment is adverse to the Participant, and (iii) any such amendment of any ISO shall be made only after the Administrator determines whether such amendment would constitute a "modification" of any Option which is an ISO (as that term is defined in Section 424(h) of the Code) or would cause any adverse tax consequences for the holder of such ISO.

8. RIGHTS AS A SHAREHOLDER.

No Participant to whom an Option has been granted shall have rights as a shareholder with respect to any Shares covered by such Option, except after due exercise of the Option and tender of the full purchase price for the Shares being purchased pursuant to such exercise and registration of the Shares in the Company's share register in the name of the Participant.

9. ASSIGNABILITY AND TRANSFERABILITY OF OPTIONS.

By its terms, an Option granted to a Participant shall not be transferable by the Participant other than (i) by will or by the laws of descent and distribution, or (ii) as approved by the Administrator in its discretion and set forth in the applicable Option Agreement. Notwithstanding the foregoing, an ISO transferred except in compliance with clause (i) above shall no longer qualify as an ISO. The designation of a beneficiary of an Option by a Participant, with the prior approval of the Administrator and in such form as the Administrator shall prescribe, shall not be deemed a transfer prohibited by this Paragraph. Except as provided above, an Option shall be exercisable, during the Participant's lifetime, only by such Participant

(or by his or her legal representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of any Option or of any rights granted thereunder contrary to the provisions of this Plan, or the levy of any attachment or similar process upon an Option, shall be null and void.

10. EFFECT OF TERMINATION OF SERVICE OTHER THAN "FOR CAUSE" OR DEATH OR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement, in the event of a termination of service (whether as an employee, director or consultant) with the Company or an Affiliate before the Participant has exercised an Option, the following rules apply:

a. A Participant who ceases to be an employee, director or consultant of the Company or of an Affiliate (for any reason other than termination "for cause", Disability, or death for which events there are special rules in Paragraphs 11, 12, and 13, respectively), may exercise any Option granted to him or her to the extent that the Option is exercisable on the date of such termination of service, but only within such term as the Administrator has designated in a Participant's Option Agreement.

b. Except as provided in Subparagraph (c) below, or Paragraph 12 or 13, in no event may an Option intended to be an ISO, be exercised later than three months after the Participant's termination of employment.

c. The provisions of this Paragraph, and not the provisions of Paragraph 12 or 13, shall apply to a Participant who subsequently becomes Disabled or dies after the termination of employment, director status or consultancy, provided, however, in the case of a Participant's Disability or death within three months after the termination of employment, director status or consultancy, the Participant or the Participant's Survivors may exercise the Option within one year after the date of the Participant's termination of service, but in no event after the date of expiration of the term of the Option.

d. Notwithstanding anything herein to the contrary, if subsequent to a Participant's termination of employment, termination of director status or termination of consultancy, but prior to the exercise of an Option, the Board of Directors determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute "cause", then such Participant shall forthwith cease to have any right to exercise any Option.

e. A Participant to whom an Option has been granted under the Plan who is absent from work with the Company or with an Affiliate because of temporary disability (any disability other than a permanent and total Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence

alone, to have terminated such Participant's employment, director status or consultancy with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide.

f. Except as required by law or as set forth in a Participant's Option Agreement, Options granted under the Plan shall not be affected by any change of a Participant's status within or among the Company and any Affiliates, so long as the Participant continues to be an employee, director or consultant of the Company or any Affiliate.

11. EFFECT OF TERMINATION OF SERVICE "FOR CAUSE".

Except as otherwise provided in a Participant's Option Agreement, the following rules apply if the Participant's service (whether as an employee, director or consultant) with the Company or an Affiliate is terminated "for cause" prior to the time that all his or her outstanding Options have been exercised:

a. All outstanding and unexercised Options as of the time the Participant is notified his or her service is terminated "for cause" will immediately be forfeited.

b. For purposes of this Plan, "cause" shall include (and is not limited to) dishonesty with respect to the Company or any Affiliate, insubordination, substantial malfeasance or non-feasance of duty, unauthorized disclosure of confidential information, breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or similar agreement between the Participant and the Company or any Affiliate, and conduct substantially prejudicial to the business of the Company or any Affiliate. The determination of the Administrator as to the existence of "cause" will be conclusive on the Participant and the Company.

c. "Cause" is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of "cause" occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service but prior to the exercise of an Option, that either prior or subsequent to the Participant's termination the Participant engaged in conduct which would constitute "cause," then the right to exercise any Option is forfeited.

d. Any definition in an agreement between the Participant and the Company or an Affiliate, which contains a conflicting definition of "cause" for termination and which is in effect at the time of such termination, shall supersede the definition in this Plan with respect to that Participant.

12. EFFECT OF TERMINATION OF SERVICE FOR DISABILITY.

Except as otherwise provided in a Participant's Option Agreement, a Participant who ceases to be an employee, director or consultant of the Company or of an Affiliate by reason of Disability may exercise any Option granted to such Participant:

a. To the extent that the Option has become exercisable but has not been exercised on the date of Disability; and

b. In the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of Disability.

A Disabled Participant may exercise such rights only within the period ending one year after the date of the Participant's termination of employment, directorship or consultancy, as the case may be, notwithstanding that the Participant might have been able to exercise the Option as to some or all of the Shares on a later date if the Participant had not become Disabled and had continued to be an employee, director or consultant or, if earlier, within the originally prescribed term of the Option.

The Administrator shall make the determination both of whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

13. EFFECT OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT.

Except as otherwise provided in a Participant's Option Agreement, in the event of the death of a Participant while the Participant is an employee, director or consultant of the Company or of an Affiliate, such Option may be exercised by the Participant's Survivors:

a. To the extent that the Option has become exercisable but has not been exercised on the date of death; and

b. In the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

If the Participant's Survivors wish to exercise the Option, they must take all necessary steps to exercise the Option within one year after the date of death of such Participant, notwithstanding that the decedent might have been able to exercise the Option as to some or all of the Shares on a later date if he or she had not died and had continued to be an employee, director or consultant or, if earlier, within the originally prescribed term of the Option.

14. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of an Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

a. The person(s) who exercise(s) such Option shall warrant to the Company, prior to the receipt of such Shares, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing their Shares issued pursuant to such exercise or such grant:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws."

b. At the discretion of the Administrator, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder.

15. DISSOLUTION OR LIQUIDATION OF THE COMPANY.

Upon the dissolution or liquidation of the Company, all Options granted under this Plan which as of such date shall not have been exercised will terminate and become null and void; provided, however, that if the rights of a Participant or a Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise any Option to the extent that the Option is exercisable as of the date immediately prior to such dissolution or liquidation.

16. ADJUSTMENTS.

Upon the occurrence of any of the following events, a Participant's rights with respect to any Option granted to him or her hereunder which has not previously been exercised in full shall be adjusted as hereinafter provided, unless otherwise specifically provided in the Participant's Option Agreement:

A. Stock Dividends and Stock Splits. If (i) the shares of Common Stock shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of Common Stock as a stock dividend on its outstanding Common Stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Common Stock, the number of shares of Common Stock deliverable upon the exercise of such Option may be appropriately increased or decreased proportionately, and appropriate adjustments may be made, including in the purchase price per share, to reflect such events.

B. Corporate Transactions. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets other than a transaction to merely change the state of incorporation (a "Corporate Transaction"), the Administrator or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to outstanding Options, either (i) make appropriate provision for the continuation of such Options by substituting on an equitable basis for the Shares then subject to such Options either the consideration payable with respect to the outstanding shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) upon written notice to the Participants, provide that all Options must be exercised (either to the extent then exercisable or, at the discretion of the Administrator or, upon a change of control of the Company, all Options being made fully exercisable for purposes of this Subparagraph), within a specified number of days of the date of such notice, at the end of which period the Options shall terminate; or (iii) terminate all Options in exchange for a cash payment equal to the excess of the Fair Market Value of the Shares subject to such Options (either to the extent then exercisable or, at the discretion of the Administrator, all Options being made fully exercisable for purposes of this Subparagraph) over the exercise price thereof.

C. Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company other than a Corporate Transaction pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of Common Stock, a Participant upon exercising an Option after the recapitalization or reorganization shall be entitled to receive for the purchase price paid upon such exercise the number of replacement securities which would have been received if such Option had been exercised prior to such recapitalization or reorganization.

D. Modification of ISOs. Notwithstanding the foregoing, any adjustments made pursuant to Subparagraph A, B or C above with respect to ISOs shall be made only after the Administrator determines whether such adjustments would constitute a "modification" of such ISOs (as that term is defined in Section 424(h) of the Code) or would cause any adverse tax

consequences for the holders of such ISOs. If the Administrator determines that such adjustments made with respect to ISOs would constitute a modification of such ISOs, it may refrain from making such adjustments, unless the holder of an ISO specifically requests in writing that such adjustment be made and such writing indicates that the holder has full knowledge of the consequences of such “modification” on his or her income tax treatment with respect to the ISO.

17. ISSUANCES OF SECURITIES.

Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares subject to Options. Except as expressly provided herein, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company.

18. FRACTIONAL SHARES.

No fractional shares shall be issued under the Plan and the person exercising such right shall receive from the Company cash in lieu of such fractional shares equal to the Fair Market Value thereof.

19. CONVERSION OF ISOs INTO NON-QUALIFIED OPTIONS; TERMINATION OF ISOs.

The Administrator, at the written request of any Participant, may in its discretion take such actions as may be necessary to convert such Participant’s ISOs (or any portions thereof) that have not been exercised on the date of conversion into Non-Qualified Options at any time prior to the expiration of such ISOs, regardless of whether the Participant is an employee of the Company or an Affiliate at the time of such conversion. At the time of such conversion, the Administrator (with the consent of the Participant) may impose such conditions on the exercise of the resulting Non-Qualified Options as the Administrator in its discretion may determine, provided that such conditions shall not be inconsistent with this Plan. Nothing in the Plan shall be deemed to give any Participant the right to have such Participant’s ISOs converted into Non-Qualified Options, and no such conversion shall occur until and unless the Administrator takes appropriate action. The Administrator, with the consent of the Participant, may also terminate any portion of any ISO that has not been exercised at the time of such conversion.

20. WITHHOLDING.

In the event that any federal, state, or local income taxes, employment taxes, Federal Insurance Contributions Act (“F.I.C.A.”) withholdings or other amounts are required by applicable law or governmental regulation to be withheld from the Participant’s salary, wages or

other remuneration in connection with the exercise of an Option or a Disqualifying Disposition (as defined in Paragraph 21), the Company may withhold from the Participant's compensation, if any, or may require that the Participant advance in cash to the Company, or to any Affiliate of the Company which employs or employed the Participant, the statutory minimum amount of such withholdings unless a different withholding arrangement, including the use of shares of the Company's Common Stock or a promissory note, is authorized by the Administrator (and permitted by law). For purposes hereof, the Fair Market Value of the shares withheld for purposes of payroll withholding shall be determined in the manner provided in Paragraph 1 above, as of the most recent practicable date prior to the date of exercise. If the Fair Market Value of the shares withheld is less than the amount of payroll withholdings required, the Participant may be required to advance the difference in cash to the Company or the Affiliate employer. The Administrator in its discretion may condition the exercise of an Option for less than the then Fair Market Value on the Participant's payment of such additional withholding.

21. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION.

Each Employee who receives an ISO must agree to notify the Company in writing immediately after the Employee makes a Disqualifying Disposition of any shares acquired pursuant to the exercise of an ISO. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale or gift) of such shares before the later of (a) two years after the date the Employee was granted the ISO, or (b) one year after the date the Employee acquired Shares by exercising the ISO, except as otherwise provided in Section 424(c) of the Code. If the Employee has died before such stock is sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

22. TERMINATION OF THE PLAN.

The Plan will terminate on August 7, 2013, the date which is ten years from the earlier of the date of its adoption by the Board of Directors and the date of its approval by the shareholders. The Plan may be terminated at an earlier date by vote of the shareholders or the Board of Directors of the Company; provided, however, that any such earlier termination shall not affect any Option Agreements executed prior to the effective date of such termination.

23. AMENDMENT OF THE PLAN AND AGREEMENTS.

The Plan may be amended by the shareholders of the Company. The Plan may also be amended by the Administrator, including, without limitation, to the extent necessary to qualify any or all outstanding Options granted under the Plan or Options to be granted under the Plan for favorable federal income tax treatment (including deferral of taxation upon exercise) as may be afforded incentive stock options under Section 422 of the Code, and to the extent necessary to qualify the shares issuable upon exercise of any outstanding Options granted, or Options to be granted, under the Plan for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. Any amendment approved by the

Administrator which the Administrator determines is of a scope that requires shareholder approval shall be subject to obtaining such shareholder approval. Any modification or amendment of the Plan shall not, without the consent of a Participant, adversely affect his or her rights under an Option previously granted to him or her. With the consent of the Participant affected, the Administrator may amend outstanding Option Agreements in a manner which may be adverse to the Participant but which is not inconsistent with the Plan. In the discretion of the Administrator, outstanding Option Agreements may be amended by the Administrator in a manner which is not adverse to the Participant.

24. EMPLOYMENT OR OTHER RELATIONSHIP.

Nothing in this Plan or any Option Agreement shall be deemed to prevent the Company or an Affiliate from terminating the employment, consultancy or director status of a Participant, nor to prevent a Participant from terminating his or her own employment, consultancy or director status or to give any Participant a right to be retained in employment or other service by the Company or any Affiliate for any period of time.

25. GOVERNING LAW.

This Plan shall be construed and enforced in accordance with the laws of the State of Delaware.

Exhibit 10.20

NON-QUALIFIED STOCK OPTION AGREEMENT

AMEDICA CORPORATION

AGREEMENT made as of the day of , 200 , between Amedica Corporation (the “Company”), a Delaware corporation having a principal place of business in Salt Lake City, Utah, and (name/address) (the “Participant”).

WHEREAS, the Company desires to grant to the Participant an Option to purchase shares of its common stock, $.01 par value per share (the “Shares”), under and for the purposes set forth in the Company’s 2003 Stock Option Plan (the “Plan”); and

WHEREAS, the Company and the Participant understand and agree that this grant replaces and supercedes the Incentive Stock Option Grant dated between the Company and the Participant; and [delete for new grants]

WHEREAS, the Company and the Participant understand and agree that any terms used and not defined herein have the same meanings as in the Plan; and

WHEREAS, the Company and the Participant each intend that the Option granted herein shall be a Non-Qualified Option.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and for other good and valuable consideration, the parties hereto agree as follows:

1. GRANT OF OPTION.

The Company hereby grants to the Participant the right and option to purchase all or any part of an aggregate of ( ) Shares, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Participant acknowledges receipt of a copy of the Plan.

2. PURCHASE PRICE.

The purchase price of the Shares covered by the Option shall be $ per Share, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares (the “Purchase Price”). Payment shall be made in accordance with Paragraph 7 of the Plan.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become exercisable as follows:

The foregoing rights are cumulative and are subject to the other terms and conditions of this Agreement and the Plan.

Notwithstanding the foregoing, in the event of a Change of Control (as defined below), 100% of the Shares which would have vested in each vesting installment remaining under this Option will be vested for purposes of Section 16(B) of the Plan unless this Option has otherwise expired or been terminated pursuant to its terms or the terms of the Plan.

Change of Control means the occurrence of any of the following events:

(i) Ownership. Any "Person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) becomes the "Beneficial Owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities (excluding for this purpose the Company or its Affiliates or any employee benefit plan of the Company) pursuant to a transaction or a series of related transactions which the Board of Directors does not approve; or

(ii) Merger/Sale of Assets. A merger or consolidation of the Company whether or not approved by the Board of Directors, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or the parent of such corporation) at least 50% of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation outstanding immediately after such merger or consolidation, or the stockholders of the Company approve an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets; or

(iii) Change in Board Composition. A change in the composition of the Board of Directors, as a result of which fewer than a majority of the directors are Incumbent Directors. "Incumbent Directors" shall mean directors who either (A) are directors of the Company as of August 8, 2003, or (B) are elected, or nominated for election, to the Board of Directors with the affirmative votes of at least a majority of the Incumbent Directors at the time of such election or nomination (but shall not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company.)

4. <u>TERM OF OPTION</u>.

The Option shall terminate years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Participant ceases to be an employee, director or consultant of the Company or of an Affiliate (for any reason other than the death or Disability of the Participant or termination of the Participant for “cause” (as defined in the Plan), the Option may be exercised, if it has not previously terminated, within the originally prescribed term of the Option, but may not be exercised thereafter. In such event, the Option shall be exercisable only to the extent that the Option has become exercisable and is in effect at the date of such cessation of employment, directorship or consultancy.

Notwithstanding the foregoing, in the event of the Participant’s Disability or death following the termination of employment, directorship or consultancy, the Participant or the Participant’s Survivors may continue to exercise the Option, but in no event after the date of expiration of the term of the Option.

In the event the Participant’s employment, directorship or consultancy is terminated by the Company or an Affiliate for “cause” (as defined in the Plan), the Participant’s right to exercise any unexercised portion of this Option shall cease immediately as of the time the Participant is notified his or her employment, directorship or consultancy is terminated for “cause”, and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Participant’s termination, but prior to the exercise of the Option, the Board of Directors of the Company determines that, either prior or subsequent to the Participant’s termination, the Participant engaged in conduct which would constitute “cause,” then the Participant shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Participant, as determined in accordance with the Plan, the Option shall be exercisable within the term originally prescribed by the Option. In such event, the Option shall be exercisable:

(a) to the extent that the Option has become exercisable but has not been exercised as of the date of Disability; and

(b) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of Disability.

In the event of the death of the Participant while an employee, director or consultant of the Company or of an Affiliate, the Option shall be exercisable by the Participant's Survivors within the originally prescribed term of the Option. In such event, the Option shall be exercisable:

(x) to the extent that the Option has become exercisable but has not been exercised as of the date of death; and

(y) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form of Exhibit A attached hereto. Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option. Payment of the purchase price for such Shares shall be made in accordance with Paragraph 7 of the Plan. The Company shall deliver a certificate or certificates representing such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The certificate or certificates for the Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Participant and if the Participant shall so request in the notice exercising the Option, shall be registered in the name of the Participant and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by any person other than the Participant, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE.

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY.

The Option shall not be transferable by the Participant otherwise than by will or by the laws of descent and distribution or pursuant to a qualified domestic relations order as defined by

the Code or Title I of the Employee Retirement Income Security Act or the rules thereunder. However, the Participant, with the approval of the Administrator, may transfer the Option for no consideration to or for the benefit of the Participant's Immediate Family (including, without limitation, to a trust for the benefit of the Participant's Immediate Family or to a partnership or limited liability company for one or more members of the Participant's Immediate Family), subject to such limits as the Administrator may establish, and the transferee shall remain subject to all the terms and conditions applicable to the Option prior to such transfer and each such transferee shall so acknowledge in writing as a condition precedent to the effectiveness of such transfer. The term "Immediate Family" shall mean the Participant's spouse, former spouse, parents, children, stepchildren, adoptive relationships, sisters, brothers, nieces, nephews and grandchildren (and, for this purpose, shall also include the Participant.) Except as provided in the previous sentence, the Option shall be exercisable, during the Participant's lifetime, only by the Participant (or, in the event of legal incapacity or incompetency, by the Participant's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void.

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE.

The Participant shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Participant. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS.

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference; provided, however, that in the event of a Change of Control (as defined in Section 3 above) 100% of the Shares which would have vested in each vesting installment remaining under this Option will be vested for purposes of Section 16(B) of the Plan.

10. TAXES.

The Participant acknowledges that upon exercise of the Option the Participant will be deemed to have taxable income measured by the difference between the then fair market value of the Shares received upon exercise and the price paid for such Shares pursuant to this Agreement. The Participant acknowledges that any income or other taxes due from him or her with respect to this Option or the Shares issuable pursuant to this Option shall be the Participant's responsibility.

The Participant agrees that the Company may withhold from the Participant's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Participant on exercise of the Option. The Participant further agrees that, if the Company does not withhold an amount from the Participant's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Participant will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing the Shares issued pursuant to such exercise:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws;" and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES.

12.1 The Shares acquired by the Participant pursuant to the exercise of the Option granted hereby shall not be transferred by the Participant except as permitted herein.

12.2 In the event of the Participant's termination of service for any reason, the Company shall have the option, but not the obligation, to repurchase all or any part of the Shares issued pursuant to this Agreement (including, without limitation, Shares purchased after termination of employment, Disability or death in accordance with Section 4 hereof). In the event the Company does not, upon the termination of service of the Participant (as described above), exercise its option pursuant to this Section 12.2, the restrictions set forth in the balance of this Agreement shall not thereby lapse, and the Participant for himself or herself, his or her heirs, legatees, executors, administrators and other successors in interest, agrees that the Shares shall remain subject to such restrictions. The following provisions shall apply to a repurchase under this Section 12.2:

(i) The per share repurchase price of the Shares to be sold to the Company upon exercise of its option under this Section 12.2 shall be equal to the Fair Market Value of each such Share determined in accordance with the Plan as of the date of termination of service; provided, however, in the event of a termination by the Company for "cause" (as defined in the Plan), the per share repurchase price of the Shares to be sold to the Company upon exercise of its option under this Section 12.2 shall be equal to $.01.

(ii) The Company's option to repurchase the Participant's Shares in the event of termination of service shall be valid for a period of 18 months commencing with the date of such termination of service.

(iii) In the event the Company shall be entitled to and shall elect to exercise its option to repurchase the Participant's Shares under this Section 12.2, the Company shall notify the Participant, or in case of death, his or her Survivor, in writing of its intent to repurchase the Shares. Such written notice may be mailed by the Company up to and including the last day of the time period provided for in Section 12.2(ii) for exercise of the Company's option to repurchase.

(iv) The written notice to the Participant shall specify the address at, and the time and date on, which payment of the repurchase price is to be made (the "Closing"). The date specified shall not be less than ten days nor more than 60 days from the date of the mailing of the notice, and the Participant or his or her successor in interest with respect to the Shares shall have no further rights as the owner thereof from and after the date specified in the notice. At the Closing, the repurchase price shall be delivered to the Participant or his or her successor in interest and the Shares being purchased, duly endorsed for transfer, shall, to the extent that they are not then in the possession of the Company, be delivered to the Company by the Participant or his or her successor in interest.

12.3 It shall be a condition precedent to the validity of any sale or other transfer of any Shares by the Participant that the following restrictions be complied with (except as hereinafter otherwise provided):

(i) No Shares owned by the Participant may be sold, pledged or otherwise transferred (including by gift or devise) to any person or entity, voluntarily, or by operation of law, except in accordance with the terms and conditions hereinafter set forth.

(ii) Before selling or otherwise transferring all or part of the Shares, the Participant shall give written notice of such intention to the Company, which notice shall include the name of the proposed transferee, the proposed purchase price per share, the terms of payment of such purchase price and all other matters relating to such sale or transfer and shall be accompanied by a copy of the binding written agreement of the proposed transferee to purchase the Shares of the Participant. Such notice shall constitute a binding offer by the Participant to sell to the Company such number of the Shares then held by the Participant as are proposed to be sold in the notice at the monetary price per share designated in such notice, payable on the terms offered to the Participant by the proposed transferee (provided, however, that the Company shall not be required to meet any non-monetary terms of the proposed transfer, including, without limitation, delivery of other securities in exchange for the Shares proposed to be sold). The Company shall give written notice to the Participant as to whether such offer has been accepted in whole by the Company within sixty days after its receipt of written notice from the Participant. The Company may only accept such offer in whole and may not accept such offer in part. Such acceptance notice shall fix a time, location and date for the closing on such purchase ("Closing Date") which shall not be less than ten nor more than sixty days after the giving of the acceptance notice, provided, however, if any of the Shares to be sold pursuant to this Section 12.3 have been held by the Participant for less than six months, then the Closing Date may be extended by the Company until no more than ten days after such Shares have been held by the Participant for six months. The place for such closing shall be at the Company's principal office. At such closing, the Participant shall accept payment as set forth herein and shall deliver to the Company in exchange therefor certificates for the number of Shares stated in the notice accompanied by duly executed instruments of transfer.

(iii) If the Company shall fail to accept any such offer, the Participant shall be free to sell all, but not less than all, of the Shares set forth in his or her notice to the designated transferee at the price and terms designated in the Participant's notice, provided that (i) such sale is consummated within six months after the giving of notice by the Participant to the Company as aforesaid, and (ii) the transferee first agrees in writing to be bound by the provisions of this Section 12 so that such transferee (and all subsequent transferees) shall thereafter only be permitted to sell or transfer the Shares in accordance with the terms hereof. After the expiration of such six months, the provisions of this Section 12.3 shall again apply with respect to any proposed voluntary transfer of the Participant's Shares.

(iv) The restrictions on transfer contained in this Section 12.3 shall not apply to (a) transfers by the Participant to his or her spouse or children or to a trust for the benefit of his or her spouse or children, (b) transfers by the Participant to his or

her guardian or conservator, and (c) or transfers by the Participant, in the event of his or her death, to his or her executor(s) or administrator(s) or to trustee(s) under his or her will (collectively, "Permitted Transferees"); provided however, that in any such event the Shares so transferred in the hands of each such Permitted Transferee shall remain subject to this Agreement, and each such Permitted Transferee shall so acknowledge in writing as a condition precedent to the effectiveness of such transfer.

(v) The provisions of this Section 12.3 may be waived by the Company. Any such waiver may be unconditional or based upon such conditions as the Company may impose.

12.4 In the event that the Participant or his or her successor in interest fails to deliver the Shares to be repurchased by the Company under this Agreement, the Company may elect (a) to establish a segregated account in the amount of the repurchase price, such account to be turned over to the Participant or his or her successor in interest upon delivery of such Shares, and (b) immediately to take such action as is appropriate to transfer record title of such Shares from the Participant to the Company and to treat the Participant and such Shares in all respects as if delivery of such Shares had been made as required by this Agreement. The Participant hereby irrevocably grants the Company a power of attorney which shall be coupled with an interest for the purpose of effectuating the preceding sentence.

12.5 If the Company shall pay a stock dividend or declare a stock split on or with respect to any of its Common Stock, or otherwise distribute securities of the Company to the holders of its Common Stock, the number of shares of stock or other securities of the Company issued with respect to the shares then subject to the restrictions contained in this Agreement shall be added to the Shares subject to the Company's rights to repurchase pursuant to this Agreement. If the Company shall distribute to its stockholders shares of stock of another corporation, the shares of stock of such other corporation, distributed with respect to the Shares then subject to the restrictions contained in this Agreement, shall be added to the Shares subject to the Company's rights to repurchase pursuant to this Agreement.

12.6 If the outstanding shares of Common Stock of the Company shall be subdivided into a greater number of shares or combined into a smaller number of shares, or in the event of a reclassification of the outstanding shares of Common Stock of the Company, or if the Company shall be a party to a merger, consolidation or capital reorganization, there shall be substituted for the Shares then subject to the restrictions contained in this Agreement such amount and kind of securities as are issued in such subdivision, combination, reclassification, merger, consolidation or capital reorganization in respect of the Shares subject immediately prior thereto to the Company's rights to repurchase pursuant to this Agreement.

12.7 The Company shall not be required to transfer any Shares on its books which shall have been sold, assigned or otherwise transferred in violation of this Agreement, or to treat as owner of such Shares, or to accord the right to vote as such owner or to pay dividends to, any person or organization to which any such Shares shall have been so sold, assigned or otherwise transferred, in violation of this Agreement.

12.8 The provisions of Sections 12.1, 12.2 and 12.3 shall terminate upon the effective date of the registration of the Shares pursuant to the Securities Exchange Act of 1934.

12.9 If, in connection with a registration statement filed by the Company pursuant to the 1933 Act, the Company or its underwriter so requests, the Participant will agree not to sell any Shares for a period not to exceed 180 days following the effectiveness of such registration.

12.10 The Participant acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Participant any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of the employment of the Participant by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

12.11 All certificates representing the Shares to be issued to the Participant pursuant to this Agreement shall have endorsed thereon a legend substantially as follows: "The shares represented by this certificate are subject to restrictions set forth in a Non-Qualified Stock Option Agreement dated September 17, 2003 with this Company, a copy of which Agreement is available for inspection at the offices of the Company or will be made available upon request."

13. NO OBLIGATION TO MAINTAIN RELATIONSHIP.

The Company is not by the Plan or this Option obligated to continue the Participant as an employee, director or consultant of the Company or an Affiliate. The Participant acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iii) that all determinations with respect to any such future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (iv) that the Participant's participation in the Plan is voluntary; (v) that the value of the Option is an extraordinary item of compensation which is outside the scope of the Participant's employment contract, if any; and (vi) that the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. NOTICES.

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Amedica Corporation
615 Arapeen Drive, Suite 302
Salt Lake City, UT 84108

If to the Participant:

____
____
____

or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

15. GOVERNING LAW.

This Agreement shall be construed and enforced in accordance with the law of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in Utah and agree that such litigation shall be conducted in the courts of Salt Lake County, Utah or the federal courts of the United States for the District of Utah.

16. BENEFIT OF AGREEMENT.

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

17. ENTIRE AGREEMENT.

This Agreement, together with the Plan, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict, the express terms and provisions of this Agreement, provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

18. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

19. WAIVERS AND CONSENTS.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by a written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

20. DATA PRIVACY.

By entering into this Agreement, the Participant: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan record keeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; (ii) waives any data privacy rights he or she may have with respect to such information; and (iii) authorizes the Company and each Affiliate to store and transmit such information in electronic form.

21. CONSENT OF SPOUSE.

If the Participant is married as of the date of this Agreement, the Participant's spouse shall execute a Consent of Spouse in the form of Exhibit B hereto, effective as of the date hereof. Such consent shall not be deemed to confer or convey to the spouse any rights in the Shares that do not otherwise exist by operation of law or the agreement of the parties. If the Participant marries or remarries subsequent to the date hereof, the Participant shall, not later than 60 days thereafter, obtain his or her new spouse's acknowledgement of and consent to the existence and binding effect of Section 12.2 of this Agreement by such spouse's executing and delivering a Consent of Spouse in the form of Exhibit B.

IN WITNESS WHEREOF, the Company has caused this Agreement to be executed by its duly authorized officer, and the Participant has hereunto set his or her hand, all as of the day and year first above written.

AMEDICA CORPORATION

By: ______________________________

Name
Title

____

____

Exhibit A

NOTICE OF EXERCISE OF NON-QUALIFIED STOCK OPTION

To: Amedica Corporation

Ladies and Gentlemen:

I hereby exercise my Non-Qualified Stock Option to purchase shares (the “Shares”) of the common stock, $.01 par value, of Amedica Corporation (the “Company”), at the exercise price of $ per share, pursuant to and subject to the terms of that certain Non-Qualified Stock Option Agreement between the undersigned and the Company dated September 17, 2003.

I am aware that the Shares have not been registered under the Securities Act of 1933, as amended (the “1933 Act”), or any state securities laws. I understand that the reliance by the Company on exemptions under the 1933 Act is predicated in part upon the truth and accuracy of the statements by me in this Notice of Exercise.

I hereby represent and warrant that (1) I have been furnished with all information which I deem necessary to evaluate the merits and risks of the purchase of the Shares; (2) I have had the opportunity to ask questions concerning the Shares and the Company and all questions posed have been answered to my satisfaction; (3) I have been given the opportunity to obtain any additional information I deem necessary to verify the accuracy of any information obtained concerning the Shares and the Company; and (4) I have such knowledge and experience in financial and business matters that I am able to evaluate the merits and risks of purchasing the Shares and to make an informed investment decision relating thereto.

I hereby represent and warrant that I am purchasing the Shares for my own personal account for investment and not with a view to the sale or distribution of all or any part of the Shares.

I understand that because the Shares have not been registered under the 1933 Act, I must continue to bear the economic risk of the investment for an indefinite time and the Shares cannot be sold unless the Shares are subsequently registered under applicable federal and state securities laws or an exemption from such registration requirements is available.

I agree that I will in no event sell or distribute or otherwise dispose of all or any part of the Shares unless (1) there is an effective registration statement under the 1933 Act and applicable state securities laws covering any such transaction involving the Shares or (2) the Company receives an opinion of my legal counsel (concurred in by legal counsel for the Company) stating that such transaction is exempt from registration or the Company otherwise satisfies itself that such transaction is exempt from registration.

I consent to the placing of a legend on my certificate for the Shares stating that the Shares have not been registered and setting forth the restrictions on transfer contemplated hereby and to the placing of a stop transfer order on the books of the Company and with any transfer agents against the Shares until the Shares may be legally resold or distributed without restriction.

I understand that at the present time Rule 144 of the Securities and Exchange Commission (the "SEC") may not be relied on for the resale or distribution of the Shares by me. I understand that the Company has no obligation to me to register the sale of the Shares with the SEC and has not represented to me that it will register the sale of the Shares.

I understand the terms and restrictions on the right to dispose of the Shares set forth in the 2003 Stock Option Plan and the Non-Qualified Stock Option Agreement, both of which I have carefully reviewed. I consent to the placing of a legend on my certificate for the Shares referring to such restriction and the placing of stop transfer orders until the Shares may be transferred in accordance with the terms of such restrictions.

I have considered the Federal, state and local income tax implications of the exercise of my Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

____

Please issue the stock certificate for the Shares (check one):

☐ to me; or

☐ to me and , as joint tenants with right of survivorship

and mail the certificate to me at the following address:

____

____

____

My mailing address for shareholder communications, if different from the address listed above is:

____

____

____

Very truly yours,

____

Participant (signature)

____

Print Name

____

Date

____

Social Security Number

Exhibit B

CONSENT OF SPOUSE

I, , spouse of , acknowledge that I have read the Non-Qualified Stock Option Agreement dated as of (the "Agreement") to which this Consent is attached as Exhibit B and that I know its contents. Capitalized terms used and not defined herein shall have the meanings assigned to such terms in the Agreement. I am aware that by its provisions the Shares underlying the options granted to my spouse pursuant to the Agreement are subject to a right of repurchase in favor of Amedica Corporation (the "Company") and that, accordingly, the Company has the right to repurchase up to all of the Shares of which I may become possessed as a result of a gift from my spouse or a court decree and/or any property settlement in any domestic litigation.

I hereby agree that my interest, if any, in the Shares subject to the Agreement shall be irrevocably bound by the Agreement and further understand and agree that any community property interest I may have in the Shares shall be similarly bound by the Agreement.

I agree to the repurchase right described in Section 12.2 of the Agreement and I hereby consent to the repurchase of the Shares by the Company and the sale of the Shares by my spouse or my spouse's legal representative in accordance with the provisions of the Agreement. Further, as part of the consideration for the Agreement, I agree that at my death, if I have not disposed of any interest of mine in the Shares by an outright bequest of the Shares to my spouse, then the Company shall have the same rights against my legal representative to exercise its rights of repurchase with respect to any interest of mine in the Shares as it would have had pursuant to the Agreement if I had acquired the Shares pursuant to a court decree in domestic litigation.

I AM AWARE THAT THE LEGAL, FINANCIAL AND RELATED MATTERS CONTAINED IN THE AGREEMENT ARE COMPLEX AND THAT I AM FREE TO SEEK INDEPENDENT PROFESSIONAL GUIDANCE OR COUNSEL WITH RESPECT TO THIS CONSENT. I HAVE EITHER SOUGHT SUCH GUIDANCE OR COUNSEL OR DETERMINED AFTER REVIEWING THE AGREEMENT CAREFULLY THAT I WILL WAIVE SUCH RIGHT.

Dated as of the day of , 2009.

Signature: ______________________________

Print Name: ______________________________

Exhibit 10.21

INCENTIVE STOCK OPTION AGREEMENT

AMEDICA CORPORATION

AGREEMENT made as of the day of , 20 , between Amedica Corporation (the "Company"), a Delaware corporation having a principal place of business in Salt Lake City, Utah and of , an employee of the Company (the "Employee").

WHEREAS, the Company desires to grant to the Employee an Option to purchase shares of its common stock, $.01 par value per share (the "Shares"), under and for the purposes set forth in the Company's 2003 Stock Option Plan (the "Plan");

WHEREAS, the Company and the Employee understand and agree that any terms used and not defined herein have the same meanings as in the Plan; and

WHEREAS, the Company and the Employee each intend that the Option granted herein qualify as an ISO.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and for other good and valuable consideration, the parties hereto agree as follows:

1. GRANT OF OPTION.

The Company hereby grants to the Employee the right and option to purchase all or any part of an aggregate of ( ) Shares, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Employee acknowledges receipt of a copy of the Plan.

2. PURCHASE PRICE.

The purchase price of the Shares covered by the Option shall be $ per Share, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares (the "Purchase Price"). Payment shall be made in accordance with Paragraph 7 of the Plan.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become exercisable as follows:

On (the date 1 year from agmt date) up to (25% Shares)

Balance of shares vested pro rated 36 months (On January 11, 2008 and on the 11th day of each following month through and including November 11, 2010)	an additional 14.5833 Shares
On (date from 4 years of agmt date)	An additional 14.5845 shares

The foregoing rights are cumulative and are subject to the other terms and conditions of this Agreement and the Plan.

Notwithstanding the foregoing, in the event of a Change of Control (as defined below), 100% of the Shares which would have vested in each vesting installment remaining under this Option will be vested for purposes of Section 16 (B) of the Plan unless this Option has otherwise expired or been terminated pursuant to its terms or the terms of the Plan.

Change of Control means the occurrence of any of the following events:

(i) Ownership. Any "Person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended) becomes the "Beneficial Owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities (excluding for this purpose the Company or its Affiliates or any employee benefit plan of the Company) pursuant to a transaction or a series of related transactions which the Board of Directors does not approve; or

(ii) Merger/Sale of Assets. A merger or consolidation of the Company whether or not approved by the Board of Directors, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or the parent of such corporation) at least 50% of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation outstanding immediately after such merger or consolidation, or the stockholders of the Company approve an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets; or

(iii) Change in Board Composition. A change in the composition of the Board of Directors, as a result of which fewer than a majority of the directors are Incumbent Directors. "Incumbent Directors" shall mean directors who

either (A) are directors of the Company as of August 8, 2003, or (B) are elected, or nominated for election, to the Board of Directors with the affirmative votes of at least a majority of the Incumbent Directors at the time of such election or nomination (but shall not include an individual whose election or nomination is in connection with an actual or threatened proxy contest relating to the election of directors to the Company.)

4. TERM OF OPTION.

The Option shall terminate ten years from the date of this Agreement or, if the Employee owns as of the date hereof more than 10% of the total combined voting power of all classes of capital stock of the Company or an Affiliate, five years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Employee ceases to be an employee of the Company or of an Affiliate (for any reason other than the death or Disability of the Employee or termination of the Employee's employment for "cause" (as defined in the Plan**)**, the Option may be exercised, if it has not previously terminated, within three months after the date the Employee ceases to be an employee of the Company or an Affiliate, or within the originally prescribed term of the Option, whichever is earlier, but may not be exercised thereafter. In such event, the Option shall be exercisable only to the extent that the Option has become exercisable and is in effect at the date of such cessation of employment.

Notwithstanding the foregoing, in the event of the Employee's Disability or death within three months after the termination of employment, the Employee or the Employee's Survivors may exercise the Option within one year after the date of the Employee's termination of employment, but in no event after the date of expiration of the term of the Option.

In the event the Employee's employment is terminated by the Employee's employer for "cause" (as defined in the Plan), the Employee's right to exercise any unexercised portion of this Option shall cease immediately as of the time the Employee is notified his or her employment is terminated for "cause," and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Employee's termination as an employee, but prior to the exercise of the Option, the Board of Directors of the Company determines that, either prior or subsequent to the Employee's termination, the Employee engaged in conduct which would constitute "cause," then the Employee shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Employee, as determined in accordance with the Plan, the Option shall be exercisable within one year after the Employee's termination of employment or, if earlier, within the term originally prescribed by the Option. In such event, the Option shall be exercisable:

(a) to the extent that the Option has become exercisable but has not been exercised as of the date of Disability; and

(b) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of Disability of any additional vesting rights that would have accrued on the next vesting date had the Employee not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of Disability.

In the event of the death of the Employee while an employee of the Company or of an Affiliate, the Option shall be exercisable by the Employee's Survivors within one year after the date of death of the Employee or, if earlier, within the originally prescribed term of the Option. In such event, the Option shall be exercisable:

(x) to the extent that the Option has become exercisable but has not been exercised as of the date of death; and

(y) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Employee not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Employee's date of death.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form of Exhibit A attached hereto. Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option. Payment of the purchase price for such Shares shall be made in accordance with Paragraph 7 of the Plan. The Company shall deliver a certificate or certificates representing such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The certificate or certificates for the Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Employee and if the Employee shall so request in the notice exercising the Option, shall be registered in the name of the Employee and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by any person other than the Employee, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE.

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY.

The Option shall not be transferable by the Employee otherwise than by will or by the laws of descent and distribution. The Option shall be exercisable, during the Employee's lifetime, only by the Employee (or, in the event of legal incapacity or incompetency, by the Employee's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void.

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE.

The Employee shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Employee. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS.

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference; provided, however, that in the event of a Change of Control (as defined in Section 3 above) 100% of the Shares which would have vested in each vesting installment remaining under this Option will be vested for purposes of Section 16(B) of the Plan.

10. TAXES.

The Employee acknowledges that any income or other taxes due from him or her with respect to this Option or the Shares issuable pursuant to this Option shall be the Employee's responsibility.

In the event of a Disqualifying Disposition (as defined in Section 15 below) or if the Option is converted into a Non-Qualified Option and such Non-Qualified Option is exercised, the Company may withhold from the Employee's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Employee on exercise of the Option. The Employee further agrees that, if the Company does not withhold an amount from the Employee's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Employee will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing the Shares issued pursuant to such exercise:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws;" and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES.

12.1 The Shares acquired by the Employee pursuant to the exercise of the Option granted hereby shall not be transferred by the Employee except as permitted herein.

12.2 In the event of the Employee's termination of employment for any reason, the Company shall have the option, but not the obligation, to repurchase all or any part of the Shares issued pursuant to this Agreement (including, without limitation, Shares purchased after termination of employment, Disability or death in accordance with Section 4 hereof). In the event the Company does not, upon the termination of employment of the Employee (as described above), exercise its option pursuant to this Section 12.2, the restrictions set forth in the balance of this Agreement shall not thereby lapse, and the Employee for himself or herself, his or her heirs, legatees, executors, administrators and other successors in interest, agrees that the Shares shall remain subject to such restrictions. The following provisions shall apply to a repurchase under this Section 12.2:

(i) The per share repurchase price of the Shares to be sold to the Company upon exercise of its option under this Section 12.2 shall be equal to the Fair Market Value of each such Share determined in accordance with the Plan as of the date of termination of employment; provided, however, in the event of a termination by the Company for "cause" (as defined in the Plan), the per share repurchase price of the Shares to be sold to the Company upon exercise of its option under this Section 12.2 shall be equal to $.01.

(ii) The Company's option to repurchase the Employee's Shares in the event of termination of employment shall be valid for a period of 18 months commencing with the date of such termination of employment.

(iii) In the event the Company shall be entitled to and shall elect to exercise its option to repurchase the Employee's Shares under this Section 12.2, the Company shall notify the Employee, or in case of death, his or her Survivor, in writing of its intent to repurchase the Shares. Such written notice may be mailed by the Company up to and including the last day of the time period provided for in Section 12.2(ii) for exercise of the Company's option to repurchase.

(iv) The written notice to the Employee shall specify the address at, and the time and date on, which payment of the repurchase price is to be made (the "Closing"). The date specified shall not be less than ten days nor more than 60 days from the date of the mailing of the notice, and the Employee or his or her successor in interest with respect to the Shares shall have no further rights as the owner thereof from and after the date specified in the notice. At the Closing, the repurchase price shall be delivered to the Employee or his or her successor in interest and the Shares being purchased, duly endorsed for transfer, shall, to the extent that they are not then in the possession of the Company, be delivered to the Company by the Employee or his or her successor in interest.

12.3 It shall be a condition precedent to the validity of any sale or other transfer of any Shares by the Employee that the following restrictions be complied with (except as hereinafter otherwise provided):

(i) No Shares owned by the Employee may be sold, pledged or otherwise transferred (including by gift or devise) to any person or entity, voluntarily, or by operation of law, except in accordance with the terms and conditions hereinafter set forth.

(ii) Before selling or otherwise transferring all or part of the Shares, the Employee shall give written notice of such intention to the Company, which notice shall include the name of the proposed transferee, the proposed purchase price per share, the terms of payment of such purchase price and all other matters relating to such sale or transfer and shall be accompanied by a copy of the binding written

agreement of the proposed transferee to purchase the Shares of the Employee. Such notice shall constitute a binding offer by the Employee to sell to the Company such number of the Shares then held by the Employee as are proposed to be sold in the notice at the monetary price per share designated in such notice, payable on the terms offered to the Employee by the proposed transferee (provided, however, that the Company shall not be required to meet any non-monetary terms of the proposed transfer, including, without limitation, delivery of other securities in exchange for the Shares proposed to be sold). The Company shall give written notice to the Employee as to whether such offer has been accepted in whole by the Company within 60 days after its receipt of written notice from the Employee. The Company may only accept such offer in whole and may not accept such offer in part. Such acceptance notice shall fix a time, location and date for the closing on such purchase ("Closing Date") which shall not be less than ten nor more than sixty days after the giving of the acceptance notice, provided, however, if any of the Shares to be sold pursuant to this Section 12.3 have been held by the Employee for less than six months, then the Closing Date may be extended by the Company until no more than ten days after such Shares have been held by the Employee for six months. The place for such closing shall be at the Company's principal office. At such closing, the Employee shall accept payment as set forth herein and shall deliver to the Company in exchange therefor certificates for the number of Shares stated in the notice accompanied by duly executed instruments of transfer.

(iii) If the Company shall fail to accept any such offer, the Employee shall be free to sell all, but not less than all, of the Shares set forth in his or her notice to the designated transferee at the price and terms designated in the Employee's notice, provided that (i) such sale is consummated within six months after the giving of notice by the Employee to the Company as aforesaid, and (ii) the transferee first agrees in writing to be bound by the provisions of this Section 12 so that such transferee (and all subsequent transferees) shall thereafter only be permitted to sell or transfer the Shares in accordance with the terms hereof. After the expiration of such six months, the provisions of this Section 12.3 shall again apply with respect to any proposed voluntary transfer of the Employee's Shares.

(iv) The restrictions on transfer contained in this Section 12.3 shall not apply to (a) transfers by the Employee to his or her spouse or children or to a trust for the benefit of his or her spouse or children, (b) transfers by the Employee to his or her guardian or conservator, and (c) or transfers by the Employee, in the event of his or her death, to his or her executor(s) or administrator(s) or to trustee(s) under his or her will (collectively, "Permitted Transferees"); provided however, that in any such event the Shares so transferred in the hands of each such Permitted Transferee shall remain subject to this Agreement, and each such Permitted Transferee shall so acknowledge in writing as a condition precedent to the effectiveness of such transfer.

(v) The provisions of this Section 12.3 may be waived by the Company. Any such waiver may be unconditional or based upon such conditions as the Company may impose.

12.4 In the event that the Employee or his or her successor in interest fails to deliver the Shares to be repurchased by the Company under this Agreement, the Company may elect (a) to establish a segregated account in the amount of the repurchase price, such account to be turned over to the Employee or his or her successor in interest upon delivery of such Shares, and (b) immediately to take such action as is appropriate to transfer record title of such Shares from the Employee to the Company and to treat the Employee and such Shares in all respects as if delivery of such Shares had been made as required by this Agreement. The Employee hereby irrevocably grants the Company a power of attorney which shall be coupled with an interest for the purpose of effectuating the preceding sentence.

12.5 If the Company shall pay a stock dividend or declare a stock split on or with respect to any of its Common Stock, or otherwise distribute securities of the Company to the holders of its Common Stock, the number of shares of stock or other securities of the Company issued with respect to the shares then subject to the restrictions contained in this Agreement shall be added to the Shares subject to the Company’s rights to repurchase pursuant to this Agreement. If the Company shall distribute to its stockholders shares of stock of another corporation, the shares of stock of such other corporation, distributed with respect to the Shares then subject to the restrictions contained in this Agreement, shall be added to the Shares subject to the Company’s rights to repurchase pursuant to this Agreement.

12.6 If the outstanding shares of Common Stock of the Company shall be subdivided into a greater number of shares or combined into a smaller number of shares, or in the event of a reclassification of the outstanding shares of Common Stock of the Company, or if the Company shall be a party to a merger, consolidation or capital reorganization, there shall be substituted for the Shares then subject to the restrictions contained in this Agreement such amount and kind of securities as are issued in such subdivision, combination, reclassification, merger, consolidation or capital reorganization in respect of the Shares subject immediately prior thereto to the Company’s rights to repurchase pursuant to this Agreement.

12.7 The Company shall not be required to transfer any Shares on its books which shall have been sold, assigned or otherwise transferred in violation of this Agreement, or to treat as owner of such Shares, or to accord the right to vote as such owner or to pay dividends to, any person or organization to which any such Shares shall have been so sold, assigned or otherwise transferred, in violation of this Agreement.

12.8 The provisions of Sections 12.1, 12.2 and 12.3 shall terminate upon the effective date of the registration of the Shares pursuant to the Securities Exchange Act of 1934.

12.9 If, in connection with a registration statement filed by the Company pursuant to the 1933 Act, the Company or its underwriter so requests, the Employee will agree not to sell any Shares for a period not to exceed 180 days following the effectiveness of such registration.

12.10 The Employee acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Employee any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of the employment of the Employee by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

12.11 All certificates representing the Shares to be issued to the Employee pursuant to this Agreement shall have endorsed thereon a legend substantially as follows: "The shares represented by this certificate are subject to restrictions set forth in an Incentive Stock Option Agreement dated September 17, 2003 with this Company, a copy of which Agreement is available for inspection at the offices of the Company or will be made available upon request."

13. NO OBLIGATION TO EMPLOY.

The Company is not by the Plan or this Option obligated to continue the Employee as an employee of the Company or an Affiliate. The Employee acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iii) that all determinations with respect to any such future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (iv) that the Employee's participation in the Plan is voluntary; (v) that the value of the Option is an extraordinary item of compensation which is outside the scope of the Employee's employment contract, if any; and (vi) that the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. OPTION IS INTENDED TO BE AN ISO.

The parties each intend that the Option be an ISO so that the Employee (or the Employee's Survivors) may qualify for the favorable tax treatment provided to holders of Options that meet the standards of Section 422 of the Code. Any provision of this Agreement or the Plan which conflicts with the Code so that this Option would not be deemed an ISO is null and void and any ambiguities shall be resolved so that the Option qualifies as an ISO. Nonetheless, if the Option is determined not to be an ISO, the Employee understands that neither the Company nor any Affiliate is responsible to compensate him or her or otherwise make up for the treatment of the Option as a Non-qualified Option and not as an ISO. The Employee should consult with the Employee's own tax advisors regarding the tax effects of the Option and the requirements necessary to obtain favorable tax treatment under Section 422 of the Code, including, but not limited to, holding period requirements.

15. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION.

The Employee agrees to notify the Company in writing immediately after the Employee makes a Disqualifying Disposition of any of the Shares acquired pursuant to the exercise of the Option. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale) of such Shares before the later of (a) two years after the date the Employee was granted the Option or (b) one year after the date the Employee acquired Shares by exercising the Option, except as otherwise provided in Section 424(c) of the Code. If the Employee has died before the Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

16. NOTICES.

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Amedica Corporation
615 Arapeen Dr., Suite 302
Salt Lake City, UT 84108

If to the Employee:

____
____
____

or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

17. GOVERNING LAW.

This Agreement shall be construed and enforced in accordance with the law of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in Utah and agree that such litigation shall be conducted in the courts of Salt Lake County, Utah or the federal courts of the United States for the District of Utah.

18. BENEFIT OF AGREEMENT.

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

19. ENTIRE AGREEMENT.

This Agreement, together with the Plan, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict, the express terms and provisions of this Agreement, provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

20. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

21. WAIVERS AND CONSENTS.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by a written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

22. DATA PRIVACY.

By entering into this Agreement, the Employee: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; (ii) waives any data privacy rights he or she may have with respect to such information; and (iii) authorizes the Company and each Affiliate to store and transmit such information in electronic form.

23. CONSENT OF SPOUSE.

If the Employee is married as of the date of this Agreement, the Employee's spouse shall execute a Consent of Spouse in the form of Exhibit B hereto, effective as of the date hereof. Such consent shall not be deemed to confer or convey to the spouse any rights in the Shares that do not otherwise exist by operation of law or the agreement of the parties. If the Employee marries or remarries subsequent to the date hereof, the Employee shall, not later than 60 days thereafter, obtain his or her new spouse's acknowledgement of and consent to the existence and binding effect of Section 12.2 of this Agreement by such spouse's executing and delivering a Consent of Spouse in the form of Exhibit B.

IN WITNESS WHEREOF, the Company has caused this Agreement to be executed by its duly authorized officer, and the Employee has hereunto set his or her hand, all as of the day and year first above written.

AMEDICA CORPORATION

By: ______________________________

Reyn Gallacher
Vice President Finance & CFO

____

Employee

Exhibit A

NOTICE OF EXERCISE OF INCENTIVE STOCK OPTION

To: Amedica Corporation

Ladies and Gentlemen:

I hereby exercise my Incentive Stock Option to purchase shares (the "Shares") of the common stock, $.01 par value, of Amedica Corporation (the "Company"), at the exercise price of $1.00 per share, pursuant to and subject to the terms of that certain Incentive Stock Option Agreement between the undersigned and the Company dated .

I am aware that the Shares have not been registered under the Securities Act of 1933, as amended (the "1933 Act"), or any state securities laws. I understand that the reliance by the Company on exemptions under the 1933 Act is predicated in part upon the truth and accuracy of the statements by me in this Notice of Exercise.

I hereby represent and warrant that (1) I have been furnished with all information which I deem necessary to evaluate the merits and risks of the purchase of the Shares; (2) I have had the opportunity to ask questions concerning the Shares and the Company and all questions posed have been answered to my satisfaction; (3) I have been given the opportunity to obtain any additional information I deem necessary to verify the accuracy of any information obtained concerning the Shares and the Company; and (4) I have such knowledge and experience in financial and business matters that I am able to evaluate the merits and risks of purchasing the Shares and to make an informed investment decision relating thereto.

I hereby represent and warrant that I am purchasing the Shares for my own personal account for investment and not with a view to the sale or distribution of all or any part of the Shares.

I understand that because the Shares have not been registered under the 1933 Act, I must continue to bear the economic risk of the investment for an indefinite time and the Shares cannot be sold unless the Shares are subsequently registered under applicable federal and state securities laws or an exemption from such registration requirements is available.

I agree that I will in no event sell or distribute or otherwise dispose of all or any part of the Shares unless (1) there is an effective registration statement under the 1933 Act and applicable state securities laws covering any such transaction involving the Shares or (2) the Company receives an opinion of my legal counsel (concurred in by legal counsel for the Company) stating that such transaction is exempt from registration or the Company otherwise satisfies itself that such transaction is exempt from registration.

I consent to the placing of a legend on my certificate for the Shares stating that the Shares have not been registered and setting forth the restrictions on transfer contemplated hereby and to the placing of a stop transfer order on the books of the Company and with any transfer agents against the Shares until the Shares may be legally resold or distributed without restriction.

I understand that at the present time Rule 144 of the Securities and Exchange Commission (the "SEC") may not be relied on for the resale or distribution of the Shares by me. I understand that the Company has no obligation to me to register the sale of the Shares with the SEC and has not represented to me that it will register the sale of the Shares.

I understand the terms and restrictions on the right to dispose of the Shares set forth in the 2003 Stock Option Plan and the Incentive Stock Option Agreement, both of which I have carefully reviewed. I consent to the placing of a legend on my certificate for the Shares referring to such restriction and the placing of stop transfer orders until the Shares may be transferred in accordance with the terms of such restrictions.

I have considered the Federal, state and local income tax implications of the exercise of my Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

____

Please issue the stock certificate for the Shares (check one):

☐ to me; or

☐ to me and __________, as joint tenants with right of survivorship

and mail the certificate to me at the following address:

____

____

____

My mailing address for shareholder communications, if different from the address listed above is:

____

____

____

Very truly yours,

____

Employee (signature)

____

Print Name

____

Date

____

Social Security Number

Exhibit B

CONSENT OF SPOUSE

I, , spouse of , acknowledge that I have read the Incentive Stock Option Agreement dated as of (the "Agreement") to which this Consent is attached as Exhibit B and that I know its contents. Capitalized terms used and not defined herein shall have the meanings assigned to such terms in the Agreement. I am aware that by its provisions the Shares underlying the options granted to my spouse pursuant to the Agreement are subject to a right of repurchase in favor of Amedica Corporation (the "Company") and that, accordingly, the Company has the right to repurchase up to all of the Shares of which I may become possessed as a result of a gift from my spouse or a court decree and/or any property settlement in any domestic litigation.

I hereby agree that my interest, if any, in the Shares subject to the Agreement shall be irrevocably bound by the Agreement and further understand and agree that any community property interest I may have in the Shares shall be similarly bound by the Agreement.

I agree to the repurchase right described in Section 12.2 of the Agreement and I hereby consent to the repurchase of the Shares by the Company and the sale of the Shares by my spouse or my spouse's legal representative in accordance with the provisions of the Agreement. Further, as part of the consideration for the Agreement, I agree that at my death, if I have not disposed of any interest of mine in the Shares by an outright bequest of the Shares to my spouse, then the Company shall have the same rights against my legal representative to exercise its rights of repurchase with respect to any interest of mine in the Shares as it would have had pursuant to the Agreement if I had acquired the Shares pursuant to a court decree in domestic litigation.

I AM AWARE THAT THE LEGAL, FINANCIAL AND RELATED MATTERS CONTAINED IN THE AGREEMENT ARE COMPLEX AND THAT I AM FREE TO SEEK INDEPENDENT PROFESSIONAL GUIDANCE OR COUNSEL WITH RESPECT TO THIS CONSENT. I HAVE EITHER SOUGHT SUCH GUIDANCE OR COUNSEL OR DETERMINED AFTER REVIEWING THE AGREEMENT CAREFULLY THAT I WILL WAIVE SUCH RIGHT.

Dated as of the day of , 2009.

____
Print name:

Exhibit 21.1

Subsidiary	Jurisdiction
US Spine, Inc.	Delaware