Confidential draft registration statement submitted to the U.S. Securities and Exchange Commission on March 27, 2017. This draft registration statement has not been filed publicly with the U.S. Securities and Exchange Commission and all information contained herein remains strictly confidential.

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form S-1
REGISTRATION STATEMENT
Under
THE SECURITIES ACT OF 1933

SI-BONE, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**3841**	**26-2216351**
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

SI-BONE, Inc.
3055 Olin Avenue, Suite 2200
San Jose, California 95128
(408) 207-0700
(Address, including zip code and telephone number, including area code, of registrant's principal executive offices)

Laura A. Francis
Chief Financial Officer
SI-BONE, Inc.
3055 Olin Avenue, Suite 2200
San Jose, California 95128
(408) 207-0700
(Name, address, including zip code and telephone number, including area code, of agent for service)

Matthew B. Hemington **John T. McKenna** **Cooley LLP** **3175 Hanover Street** **Palo Alto, California 94304** **(650) 843-5000**	*Copies to:* **Michael A. Pisetsky** **General Counsel** **SI-BONE, Inc.** **3055 Olin Avenue, Suite 2200** **San Jose, California 95128** **(408) 207-0700**	**Michael Benjamin** **Peter J. Sluka** **Latham & Watkins LLP** **885 Third Avenue** **New York, New York 10022** **(212) 906-1200**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement. If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, 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, please 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 effective 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 effective 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 ☑	Smaller reporting company ☐
		(Do not check if a smaller reporting company)	

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Proposed Maximum Aggregate Offering Price(1)(2)**	**Amount of Registration Fee**
Common Stock, $0.0001 par value	$	$

(1) Estimated pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
(2) Includes the aggregate 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 of 1933, as amended, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to such Section 8(a), may determine.

Table of Contents

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 these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED , 2017

Shares

Common Stock

This is the initial public offering of shares of common stock of SI-BONE, Inc.

We are offering shares of our common stock. Prior to this offering, there has been no public market for our common stock. It is currently estimated that the initial public offering price per share will be between $ and $. We intend to apply to list our common stock on the Nasdaq Global Market under the symbol "SIBN."

We are an emerging growth company under the federal securities laws and will be subject to reduced public company reporting requirements. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 13.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds, before expenses, to us	$	$

(1) See "Underwriting" for additional disclosure regarding underwriting discounts, commissions and estimated offering expenses.

To the extent that the underwriters sell more than shares of common stock, the underwriters have a 30-day option to purchase up to an additional shares from us at the initial public offering price, less the underwriting discounts and commissions.

The underwriters expect to deliver the shares against payment in New York, New York on , 2017.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

Morgan Stanley **BofA Merrill Lynch**

Canaccord Genuity **JMP Securities**

, 2017

TABLE OF CONTENTS

Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

Through and including , 2017 (25 days after 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 is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

TRADEMARKS

Unless the context indicates otherwise, as used in this prospectus, the terms "SI-BONE" and "iFuse Implant System" or "iFuse" and other iFuse-formative trademarks, as well as other trademarks or service marks of SI-BONE appearing in this prospectus, are the property of SI-BONE. This prospectus contains additional trade names, trademarks, and service marks of ours and of other companies. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

KEY METRICS FOR STUDIES

Statistical significance in the studies described in this prospectus is denoted by p-values for both pain and disability analysis. The p-value is the statistical probability that the results observed are due to chance alone (i.e., a p-value <0.0001 for reduction in pain means that there is a less than a 0.01% chance that the demonstrated reduction in pain for subjects surgically treated with iFuse in relation to the non-surgical management group was purely due to chance).

The performance for subjects surgically treated with iFuse is evaluated using a number of commonly used metrics, including the following:

- **Visual analog scale ("VAS")**: VAS measures a patient's pain intensity on a 0–100 scale, with zero representing no pain and 100 representing the worst pain imaginable. The VAS score is used to calculate changes in patient pain.
- **Oswestry Disability Index ("ODI")**: ODI measures a patient's disability on a scale of 0–100, where zero represents no disability and scores greater than 60 represent very severe disability.

INVESTORS OUTSIDE THE UNITED STATES

Neither we nor 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 such free writing prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary highlights certain information contained elsewhere in this prospectus. This summary is not complete and does not contain all of the information you should consider in making your investment decision. You should read the entire prospectus carefully before making an investment in our common stock. You should carefully consider, among other things, our consolidated financial statements and the related notes and the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus. Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to "SI-BONE," "the company," "we," "us," and "our" refer to SI-BONE, Inc.

Our Business

We are a medical device company that has pioneered a proprietary minimally invasive surgical implant system to fuse the sacroiliac joint for treatment of common types of sacroiliac joint disorders that cause lower back pain. We introduced our iFuse Implant System, or iFuse, in 2009 in the United States and in 2010 in certain countries in the European Union. Since 2009, more than 25,000 iFuse Procedures have been performed by over 1,300 surgeons, primarily in the United States. Based on our commercial experience and our market research, we believe iFuse is currently used in approximately 70% of minimally invasive surgical fusions of the sacroiliac joint in the United States. During 2015 and 2016, we generated revenue of $41.2 million and $42.1 million, respectively, and our net loss was $28.2 million and $20.6 million, respectively. We expect to continue to incur operating losses in the future.

The two sacroiliac joints connect the sacral bone at the base of the spine with the two iliac bones of the pelvis, and absorb and transmit shock between the legs and the upper body. Patients with sacroiliac joint dysfunction may experience pain that can be debilitating. We believe that the sacroiliac joint is the last major joint to be addressed by the orthopedic implant industry.

Our iFuse Implants are triangular, and three implants are typically used in each procedure. Our implants are made of titanium and are coated with a porous surface using a titanium plasma spray process. Each iFuse Implant is at least three times the strength of a typical eight millimeter surgical screw and the large porous surface area allows fixation of the bone to the implants.

iFuse is supported by published evidence of safety, clinical effectiveness, durability and reduction in opioid users. These benefits are supported by more than 50 peer reviewed papers, including three prospective multicenter studies, two of which were randomized controlled clinical trials.

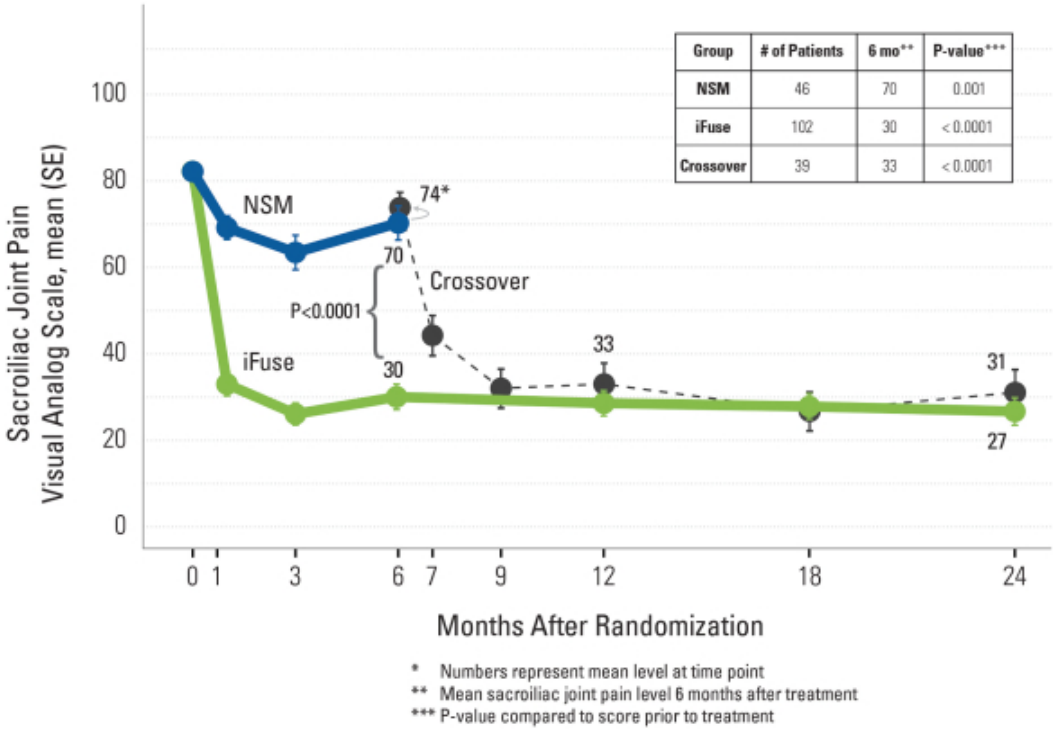
- INSITE was a randomized controlled study conducted in the United States. Positive 24-month follow-up results were published in August 2016 in the *International Journal of Spine Surgery* showing statistically significant and clinically important reduction in pain and disability. In April 2015, INSITE was awarded the "Best Overall Paper" out of approximately 450 submitted clinical study papers at the International Society for Advancement of Spine Surgery, or ISASS, conference.
- iMIA was a randomized controlled study conducted in Europe. Positive six-month follow-up results were published in *European Spine Journal* in May 2016, and the 12-month follow-up results were accepted in March 2017 for publication in *Pain Physician*, showing statistically significant and clinically profound reduction in pain and disability.
- SIFI was a single-arm study conducted in the United States. Positive 24-month follow-up results were published in the *International Journal of Spine Surgery* in April 2016, showing substantial and sustained reduction in pain and disability.

A pooled analysis of these three prospective studies was accepted in February 2017 for publication in *SPINE*, showing consistent and durable reduction in pain and disability, and improvement in quality of life.

- A controlled study that followed patients for up to six years was accepted in February 2017 for publication in *Neurosurgery*, showing that at their last follow up visit 80% of patients who received non-surgical management were using opioids, while only 7% of patients treated with iFuse were using opioids.

The INSITE clinical trial included 148 subjects treated at 19 centers in the United States, with subjects randomized in a two to one ratio to either immediate sacroiliac joint fusion with iFuse or non-surgical management. The study design allowed subjects in the non-surgical management group to cross over and have surgery after six months. By 24 months after the start of the clinical trial, 89% of the non-surgical management group subjects still participating in the trial had elected to cross over to have the iFuse Procedure. The study's results can be summarized as follows:

- **Reduction in Pain**. There was a statistically significant and clinically important pain reduction in subjects treated with iFuse as compared to those treated with non-surgical management. As shown in the graph below, subjects surgically treated with iFuse had mean 52, 54 and 55-point reductions in sacroiliac joint pain at 6, 12 and 24 months, respectively, as measured on VAS. By contrast, subjects in the non-surgical management group had only a mean 12-point reduction ($p<0.0001$) at six months. In addition, the non-surgical management group subjects who elected after six months to cross over to have the iFuse Procedure had pain reduction similar to that seen in subjects originally assigned to sacroiliac joint fusion with iFuse. At 24 months, the proportion of subjects with a reduction in VAS sacroiliac joint pain of 20 or more points was 83% in the iFuse group and 10% in the non-surgical management group.



- **Reduction in Disability**. There was a statistically significant reduction in disability with iFuse as compared to non-surgical management. Subjects surgically treated with iFuse had a mean 27-point reduction in disability at six months on ODI, while subjects in the non-surgical management group had only a mean 5-point reduction ($p<0.0001$). ODI reductions were sustained at month 24 (28-point reduction). In addition, at 24 months, the proportion of subjects with an ODI improvement of at least 15 points was 68.2% and 7.5% in the iFuse and non-surgical management groups, respectively ($p<0.0001$).

Patients from this study will be followed for up to five years in a separate long-term study.

A study accepted for publication following patients for up to six years showed that pain relief was maintained for patients treated with iFuse, while patients treated with non-surgical management showed worsening pain over that period. Moreover, the cumulative four-year revision rate with iFuse, an important clinical outcome, is approximately 3.6%, or one-third of the reported revision rate of lumbar, or lower back, fusion.

Market

Over 30 million Americans experience lower back pain at any given time, according to *The New England Journal of Medicine.* Published clinical studies have shown that 15% to 30% of all lower back pain is associated with the sacroiliac joint. Our experience in both clinical trials and commercial settings indicates that iFuse could be beneficial to at least 30% of patients who visit trained healthcare providers and are screened for exclusion and inclusion criteria. Based on our market experience and internal estimates, we believe that 10% of Americans that experience lower back pain related to the sacroiliac joint are potential candidates for the iFuse Procedure. Accordingly, we estimate that the potential market for iFuse in the United States would be 465,000 patients annually.

Studies have also shown that the disability from disease of the sacroiliac joint is comparable to the disability associated with a number of other serious orthopedic conditions (for example, knee and hip arthritis, narrowing of the spinal canal, or spinal stenosis, and degenerative disc disease), all of which have surgical solutions where an implant is used and a significant market exists. For example, there are a large number of lumbar fusions to treat lower back pain in the United States.

Limitations of Prior Treatment and Our iFuse Solution

Patients with sacroiliac joint dysfunction frequently experience significant pain simply from sitting, standing, or rolling over in bed. The pain can be exacerbated with activity—when a patient walks or runs, for example, the shock from each step is transmitted up the leg to the iliac bones of the pelvis. This results in small movements of the sacroiliac joints and pressure transferred across the joints. The initial goal in fusion of the sacroiliac joint is to immediately stabilize the joint because the movement of the damaged or arthritic joint is believed to cause the pain. After the joint has been stabilized, the goal is to permanently fuse the joint.

Surgical fusion of the sacroiliac joint with an open surgical technique was first reported in 1908; further reports were described in the 1920s. The open procedure uses plates and screws, is extremely invasive, and involves greater blood loss and longer recovery time when compared to the iFuse minimally invasive procedure.

Open surgery for elective sacroiliac joint fusion has become less common in the United States since we introduced iFuse. The table below highlights some of the key differences between the iFuse Procedure and open surgery.

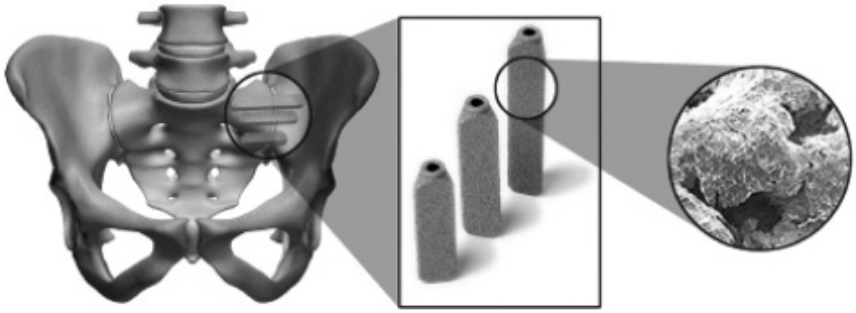
	Fusion with Open Surgery	iFuse Procedure
Size of incision	6 to 12 inches	1 to 2 inches
Average hospital stay	5.1 nights	1.3 nights
Average blood loss	800 ml	33 ml

Due to its invasiveness, pain, long recovery time, and infrequent use, the open fusion procedure was rarely taught in medical school or residency programs. Prior to our launch of iFuse, most spine surgeons had never performed a sacroiliac joint fusion. As a result, when patients presented with lower back pain, spine surgeons often did not include a sacroiliac joint evaluation in their diagnostic work-up.

It is often difficult to identify the source of lower back pain. As a result, some surgical procedures performed on the spine have a sub-optimal success rate. For example, published studies of lumbar fusion have shown success rates of only approximately 60%. We believe low success rates of lumbar fusion are likely related to failure to diagnose the sacroiliac joint as the correct cause of pain in some cases.

In addition to training surgeons to perform the iFuse Procedure, we have made considerable investments in teaching healthcare professionals to accurately diagnose sacroiliac joint disorders. We provide instruction and training on how to perform provocative maneuvers in a physician's office that can reveal the sacroiliac joint as the source of pain. If provocative tests are positive, surgeons confirm the diagnosis by injecting a small amount of local anesthetic into the joint under fluoroscopic guidance. If the local anesthetic produces immediate pain reduction, it confirms that the sacroiliac joint is the source of the pain. In addition to the differentiated characteristics of our iFuse Procedure and iFuse Implants, we believe that more accurate diagnosis is part of the reason for the high success rate of iFuse.

The iFuse Procedure is performed under general anesthesia and involves an incision approximately one to two inches in length. The surgeon uses a custom instrument set we provide to prepare a triangular channel across the sacroiliac joint for each implant. An iFuse Implant is then pressed into a triangular channel, which is slightly smaller than the implant, creating what is known as an interference fit. The triangular shape of our iFuse Implants, as shown below, prevents them from rotating. Our iFuse Implants have more than 30 times the rotation resistance of screws based on a study we sponsored. iFuse Implants cross the sacroiliac joint and provide stability, which is why we believe pain diminishes soon after the iFuse Procedure. We have issued patents on implants with cross-sections of different shapes, including the triangular shape we use for iFuse. We also have issued patents for the method of placing those implants for applications across the sacroiliac joint, as well as other parts of the spine and pelvis.



By contrast, open fusion of the sacroiliac joint, as well as the minimally invasive solutions offered by other companies, typically use screws and/or plates for fixation. When placed across the sacroiliac joint, standard orthopedic screws, with no features to encourage biologic fixation, have an exhibited propensity to rotate and loosen over time. Because of the triangular shape, porous coating, strength, and other differentiating factors of our iFuse Implants, we believe that our published clinical data does not apply to other minimally invasive solutions, for which little published evidence of safety, clinical effectiveness, durability, or economic utility currently exists. We are unaware of any data to show that our competitors' sacroiliac joint screws, with features allowing biologic fixation, have a lower rate of loosening than standard orthopedic screws. In addition, placement of plates for open fusion procedures typically requires larger incisions and more invasive dissection, which results in longer recovery times and increased morbidity.

Surgical revision is an important outcome for patients. A recent single site retrospective study published in the *International Journal of Spine Surgery* showed a cumulative revision rate of more than 30% at four years for screw-based treatment of sacroiliac joint pain (based on 38 cases) and a revision rate of less than 6% for iFuse (based on 274 cases). Based on an extensive review of the published medical literature before that study, private payors Health Care Service Corporation, or HCSC, Geisinger and SelectHealth Medical Technology Assessment Committees, or SelectHealth, determined that coverage of minimally invasive (MIS) sacroiliac joint fusion specific to iFuse was appropriate as the literature related to other MIS sacroiliac joint fusion systems was inadequate to determine safety and effectiveness. Use of all other technologies is considered experimental/investigational or unproven and therefore not covered.

Next Generation Implant

Our next generation iFuse implant, the iFuse-3D, was cleared for marketing by the U.S. Food and Drug Administration in March 2017. This implant is produced with 3D printing and is designed to promote in-growth, through-growth and on-growth by bone. This product has shown positive bone growth in animal studies as evidenced in two peer reviewed studies accepted in March 2017 for publication in the *International Journal of Spine Surgery*. We are planning a gradual roll out of this product.

Coverage and Reimbursement in the United States

Prior to our launch of iFuse, Medicare and most private insurance companies reimbursed surgeons for sacroiliac joint fusions using either an established Category I Current Procedure Terminology, or CPT, code or an unlisted code. A Category I CPT code is typically assigned to procedures that are consistent with contemporary medical practice and are widely performed. Procedures with a longstanding Category I CPT code are usually reimbursed.

However, effective July 1, 2013, the American Medical Association's, or AMA's, CPT Editorial Panel created a new Category III CPT code for fusion of the sacroiliac joint using a minimally invasive or percutaneous approach. Category III CPT codes are used for new and emerging technologies and are reimbursed sporadically. This new code functionally redefined coding for sacroiliac joint fusions because it meant that minimally invasive or percutaneous fusion procedures should not be billed using the general Category I CPT code for sacroiliac fusion surgery. The coding change was accompanied by the establishment of a Medicare hospital outpatient prospective payment rate for the new code.

Following the creation of the new Category III CPT code, a number of papers demonstrating the clinical success of the iFuse Procedure were published. These studies, along with the support of several professional societies and surgeons, resulted in the AMA CPT Editorial Panel establishing a new Category I CPT code specifically for sacroiliac joint fusion surgery using a minimally invasive or percutaneous approach. This new Category I CPT code became effective on January 1, 2015.

Subsequently, in March 2015, our INSITE prospective, randomized controlled multi-center clinical trial was published. In June 2015, the largest spine society in the world, the North American Spine Society, or NASS, published a positive coverage recommendation, based on the clinical evidence, advocating to insurance companies and Medicare Administrative Contractors, or MACs, that sacroiliac joint fusion using a minimally invasive surgical approach should be routinely reimbursed. In March 2015, the International Society for Advancement of Spine Surgery, or ISASS, also published a similar positive advocacy document intended to encourage insurance companies in the United States to reimburse for the procedure.

Coverage decisions for this code are made independently by each of the private insurance companies and the eight MACs, and the process of obtaining coverage is laborious. As of June 30, 2016, because of the iFuse clinical evidence, all eight MACs were covering the procedure. As of March 2017, eight of the largest 50 private payors were covering the iFuse Procedure regularly, while the vast majority of private payors were evaluating their coverage policies. In addition, because of the iFuse clinical evidence, the private payors HCSC, Geisinger and SelectHealth, have issued positive coverage policies for iFuse while specifically excluding coverage for any competitive products. Beginning in the fourth quarter of 2016, the increasing coverage, combined with our sales and marketing efforts, has led to an increase in the number of procedures and a return to revenue growth.

Our Strategy

Our objective is to maintain and enhance our leadership position in providing clinically-proven products and training for minimally invasive sacroiliac joint fusion and provide relief for as many patients as possible. To accomplish this objective, we intend to:

- Continue to educate physicians, payors, and patients globally about the growing body of compelling evidence supporting the safety, clinical effectiveness, durability and reduction in opioid use associated with the iFuse Procedure;
- Increase reimbursement coverage based on our evidence of safety, clinical effectiveness, durability and reduction in opioid use;
- Continue to invest in iFuse awareness, surgeon training, new products, and additional clinical and economic studies;
- Educate and train the healthcare community on the prevalence, anatomy, diagnosis, and treatment options, including minimally invasive surgical fusion of the sacroiliac joint;
- Expand our direct field organization in the United States and select European countries to drive adoption of our iFuse products;
- Maintain our technological leadership by investing in the creation of new or improved products for sacroiliac joint surgery, and obtain domestic and international regulatory clearance or approvals to market them in the United States and additional countries; and
- Continue to grow and defend our existing intellectual property portfolio.

Company History

SI-BONE was founded in 2008 by the main inventor of iFuse and member of our board of directors, orthopedist Mark A. Reiley, M.D., our President, Chief Executive Officer and Chairman, Jeffrey W. Dunn, and orthopedic surgeon Leonard Rudolf, M.D. Dr. Reiley previously invented balloon kyphoplasty and founded Kyphon Inc., which was sold to Medtronic plc in 2007. He also invented the INBONE total ankle replacement system, which was sold to Wright Medical Technology, Inc. in 2008.

As of December 31, 2016, we had 165 employees, including a direct field sales organization of 60 in the United States and 11 in Europe. In the United States, we sell primarily through our direct field organization, and

we have a small number of third-party distributors. As of March 1, 2017, throughout the world we had 27 issued patents, of which 22 were in the United States, and 29 pending patents, of which 16 were in the United States. These patents and applications cover various aspects of the iFuse Procedure, implants, and instruments.

Risks Associated With Our Business

Our business is subject to numerous risks, as more fully described in "Risk Factors," which immediately follow this prospectus summary. These risks include, among others:

- We have incurred significant operating losses since inception, we expect to continue to incur operating losses in the future, and we may not be able to achieve or sustain future profitability.
- If hospitals, surgeons, and other healthcare providers are unable to obtain adequate coverage and reimbursement from third-party payors for procedures performed using our products, adoption of our products may be delayed, and it is unlikely that they will gain widespread acceptance.
- We may not be able to convince physicians that iFuse is an attractive alternative to our competitors' products and that our procedure is an attractive alternative to existing surgical and non-surgical treatments of the sacroiliac joint.
- Surgeons and payors may not find our clinical evidence to be compelling, which could limit our sales and revenue, and on-going and future research may prove our products to be less safe and effective than initially anticipated.
- Pricing pressure from our competitors, changes in third-party coverage and reimbursement, healthcare provider consolidation, payor consolidation and the proliferation of "physician owned distributorships" may impact our ability to sell our product at prices necessary to support our current business strategies.
- We operate in a very competitive business environment and if we are unable to compete successfully against our existing or potential competitors, our sales and operating results may be negatively affected and we may not grow.
- We currently manufacture and sell products used in a single procedure, which could negatively affect our operations and financial condition.
- If we are unable to maintain and expand our network of direct sales representatives and third-party distributors, we may not be able to generate anticipated sales.
- We have a limited operating history and may face difficulties encountered by early stage companies in new and rapidly evolving markets.
- Our sales volumes and our operating results may fluctuate over the course of the year.
- If our business strategy proves to be flawed, or if we do not successfully implement our business strategy, our business and results of operations will be adversely affected.
- We will need to generate significant sales to become profitable.
- Our future capital needs are uncertain and we may need to raise additional funds in the future, and such funds may not be available on acceptable terms or at all.
- We, our suppliers, and our third-party manufacturers are subject to extensive governmental regulation both in the United States and abroad and failure to comply with applicable requirements could cause our business to suffer.
- We and our sales representatives must comply with U.S. federal and state fraud and abuse laws, including anti-kickback and false claims and equivalent foreign rules.

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and only two years of selected financial data;
- an exception from compliance with the auditor attestation requirements of Section 404 of the Sarbanes- Oxley Act of 2002, or the Sarbanes-Oxley Act;
- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements.

We may take advantage of these provisions for up to five years or such earlier time that we no longer qualify as an emerging growth company. We would cease to be an emerging growth company if we have more than $1.0 billion in annual revenue, have more than $700 million in market value of our capital stock held by non-affiliates or issue more than $1.0 billion of non-convertible debt over a three-year period. We may choose to take advantage of some but not all of these reduced reporting burdens.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Corporate Information

We were incorporated in March 2008 in Delaware. Our principal executive offices are located at 3055 Olin Avenue, Suite 2200, San Jose, California 95128, and our telephone number is (408) 207-0700. Our website address is www.si-bone.com. The information on, or that can be accessed through, our website is not part of this prospectus. We have included our website address as an inactive textual reference only.

THE OFFERING

Shares of common stock offered by us	shares
Shares of common stock to be outstanding after this offering	shares (shares if the underwriters exercise their option to purchase additional shares in full)
Option to purchase additional shares	We have granted to the underwriters the option, exercisable for 30 days, to purchase up to additional shares of our common stock.
Use of proceeds	We estimate that the net proceeds from this offering of shares of our common stock will be approximately $ million, or $ million if the underwriters exercise their option to purchase additional shares in full, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus. We expect to use approximately $ million of the net proceeds for sales and marketing activities to support ongoing commercialization of iFuse Implant System and the remainder, if any, for working capital and general corporate purposes, including research and development and clinical studies. We may also use a portion of our net proceeds to acquire or invest in complementary products, technologies, or businesses; however, we currently have no agreements or commitments to complete any such transactions. See the section titled "Use of Proceeds."
Risk factors	See the section titled "Risk Factors" and the other information included in this prospectus for a discussion of factors you should consider carefully before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	"SIBN"

The number of shares of common stock to be outstanding after this offering is based on 268,868,155 shares of common stock outstanding as of December 31, 2016, and excludes:

- 44,322,182 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2016, with a weighted-average exercise price of $0.20 per share;
- shares of common stock issuable upon the net exercise of warrants outstanding as of December 31, 2016, with an exercise price of $0.51 per share, immediately prior to the closing of this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus;
- 4,103,090 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2016, with a weighted-average exercise price of $0.48 per share;

- additional shares of our common stock reserved for future issuance under our 2008 Stock Plan, which shares will cease to be available for issuance at the time our 2017 Equity Incentive Plan becomes effective upon the execution of the underwriting agreement for this offering;
- shares of our common stock reserved for future issuance under our 2017 Equity Incentive Plan, as well as any increases in the number of shares of common stock reserved for future issuance under this plan, which will become effective upon the execution of the underwriting agreement for this offering; and
- shares of our common stock reserved for future issuance under our 2017 Employee Stock Purchase Plan, as well as any increases in the number of shares of common stock reserved for future issuance under this plan, which will become effective upon the execution of the underwriting agreement for this offering.

Unless otherwise indicated, all information in this prospectus assumes:

- The filing of our amended and restated certificate of incorporation and the effectiveness of our amended and restated bylaws upon the closing of this offering;
- The conversion of all our outstanding preferred stock as of December 31, 2016, into an aggregate of 206,835,359 shares of our common stock immediately prior to the closing of this offering;
- The reclassification of all outstanding shares of our Series 1 common stock and Series 2 common stock into a single class of common stock named “common stock,” which shall have the same voting powers, preferences, rights and qualifications, limitations, and restrictions as the current Series 2 common stock, immediately prior to the closing of this offering;
- No exercise of outstanding options and warrants; and
- No exercise by the underwriters of their option to purchase up to additional shares of our common stock.

Recent Developments

In February and March 2017, we issued and sold 9,735,767 shares of Series 7 preferred stock and received net proceeds of $5.4 million. The Series 7 preferred stock is convertible into an equal number of common stock. Unless otherwise indicated, share numbers and financial data in this prospectus do not include or give effect to the issuance and sale of the Series 7 preferred stock. Additionally, the initial conversion price per share for the Series 6 preferred stock was amended to $0.8643. All of the other terms and conditions of the Series 6 preferred stock remain the same.

SUMMARY 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 the consolidated financial statements and related notes included within this prospectus. The consolidated statements of operations data for the years ended December 31, 2015 and 2016, and the consolidated balance sheet data at December 31, 2016, are derived from our audited consolidated financial statements and related notes included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results to be expected in the future.

	Year Ended December 31,	
	2015	2016
	(in thousands, except per share data)	
Consolidated Statements of Operations Data:		
Revenue	$ 41,173	$ 42,101
Cost of goods sold	5,398	5,165
Gross profit	35,775	36,936
Operating expenses:		
Sales and marketing	39,799	35,215
Research and development	8,606	6,380
General and administrative	13,793	12,906
Total operating expenses	62,198	54,501
Loss from operations	(26,423)	(17,565)
Interest and other income (expense), net:		
Interest income	22	71
Interest expense	(1,686)	(3,308)
Other income (expense), net	(67)	213
Net loss	(28,154)	(20,589)
Other comprehensive income:		
Changes in foreign currency translation	247	67
Comprehensive loss	$ (27,907)	$ (20,522)
Net loss per common share, basic and diluted(1)	$ (0.51)	$ (0.35)
Weighted-average common shares used to compute basic and diluted net loss per common share(1)	55,292,845	59,659,307
Pro forma net loss per common share basic and diluted (unaudited)(1)	$	$
Pro forma weighted-average number of common shares used to compute basic and diluted net loss per share (unaudited)(1)		

(1) See Note 14 to our consolidated financial statements included elsewhere in this prospectus for the method used to calculate net loss per common share, basic and diluted, and pro forma net loss per common share, basic and diluted.

	As of December 31, 2016		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash and cash equivalents	$ 27,900		
Working capital	22,938		
Total assets	39,436		
Convertible preferred stock warrant liability	588		
Total borrowings	29,310		
Total liabilities	35,048		
Convertible preferred stock	113,121		
Total stockholders' (deficit) equity	(108,733)		

(1) The pro forma column reflects (i) the conversion of all outstanding shares of our preferred stock into an aggregate of 206,835,359 shares of common stock and (ii) the issuance of shares of common stock upon the net exercise of outstanding warrants with an exercise price of $0.51 per share, immediately prior to the closing of this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus.

(2) The pro forma as adjusted column further reflects the sale of shares of common stock in this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

(3) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) each of pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity by $ million, assuming the number of shares we are offering, as set forth on the cover page of this prospectus, remains the same, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 in the number of shares offered by us would increase (decrease) each of pro forma as adjusted cash and cash equivalents, working capital, total assets, and total stockholders' equity by $ million, assuming the initial public offering price per share remains the same, after deducting underwriting discounts and commissions. The pro forma as adjusted information is illustrative only, and we will adjust this information based on the actual initial public offering price, number of shares offered, and other terms of this offering determined at pricing.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could materially and adversely affect our business, financial condition, results of operations, and growth prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations.

Risks Related to Our Business and Our Industry

We have incurred significant operating losses since inception, we expect to continue to incur operating losses in the future, and we may not be able to achieve or sustain future profitability.

We have incurred net losses since our inception in 2008. During 2015 and 2016, we had net losses of $28.2 million and $20.6 million, respectively. As of December 31, 2016, we had an accumulated deficit of $116.7 million. To date, we have financed operations primarily through private placements of equity securities, certain debt-related financing arrangements and from sales of our products. We have devoted substantially all of our resources to research and development of our products, sales and marketing activities, investments in training and educating surgeons and other healthcare providers and clinical and regulatory matters for our products. There can be no assurances that we will be able to generate sufficient revenue from our existing products or from any of our product candidates in development, and to transition to profitability and generate consistent positive cash flows. Following this offering, we expect that our operating expenses will continue to increase as we continue to build our commercial infrastructure, develop, enhance, and commercialize our existing and new products and incur additional operational and reporting costs associated with being a public company. As a result, we expect to continue to incur operating losses for the foreseeable future and may never achieve profitability. Furthermore, even if we do achieve profitability, we may not be able to sustain or increase profitability on an ongoing basis. If we do not achieve profitability, it will be more difficult for us to finance our business and accomplish our strategic objectives.

If hospitals, surgeons, and other healthcare providers are unable to obtain adequate coverage and reimbursement from third-party payors for procedures performed using our products, adoption of our products may be delayed, and it is unlikely that they will gain widespread acceptance.

Maintaining and growing sales of our products depends on the availability of adequate coverage and reimbursement from third-party payors, including government programs such as Medicare and Medicaid, private insurance plans, and managed care programs. Hospitals, surgeons, and other healthcare providers that purchase or use medical devices generally rely on third-party payors to pay for all or part of the costs and fees associated with the procedures performed with these devices.

Adequate coverage and reimbursement for procedures performed with our products is central to the acceptance of our current and future products. We may be unable to sell our products on a profitable basis if third-party payors deny coverage, continue to deny coverage or reduce their current levels of payment, or if our costs of production increase faster than increases in reimbursement levels. For example, our sales decreased significantly after minimally invasive sacroiliac joint fusion was assigned to a Category III Current Procedure Terminology, or CPT, code effective July 1, 2013. Many private payors refer to coverage decisions and payment amounts determined by the Centers for Medicare and Medicaid Services, or CMS, which administers the Medicare program, as guidelines for setting their coverage and reimbursement policies. Future action by CMS or third-party payors may further diminish payments to physicians, outpatient centers, and/or hospitals. In addition, prior to July 1, 2013, the national average Medicare physician fee schedule payment to surgeons for CPT codes commonly used to submit claims for reimbursement for the iFuse Procedure was approximately $1,000. Effective

January 1, 2016, the national average Medicare payment for the new Category I CPT code of $577 increased to $718, and the national average payment effective January 1, 2017, is $715. The national average Medicare payment to hospital outpatient departments increased from $10,540 to $14,700 effective January 1, 2017. It is unclear whether this reimbursement amount will negatively affect procedure volumes. For some governmental programs, such as Medicaid, coverage and reimbursement differ from state to state, and some state Medicaid programs may not pay an adequate amount for the procedures performed with our products, if any payment is made at all. As the portion of the U.S. population over the age of 65 and eligible for Medicare continues to grow, we may be more vulnerable to coverage and reimbursement limitations. Private payors that do not follow the Medicare guidelines may adopt different coverage and reimbursement policies for procedures performed with our products. Furthermore, the healthcare industry in the United States has experienced a trend toward cost containment as government and private insurers seek to control healthcare costs by imposing lower payment rates and negotiating reduced contract rates with service providers. Therefore, we cannot be certain that the procedures performed with our products will be reimbursed at an appropriate level or at all.

To the extent we sell our products internationally, market acceptance may depend, in part, upon the availability of coverage and reimbursement within prevailing healthcare payment systems. Reimbursement and healthcare payment systems in international markets vary significantly by country, and include both government-sponsored healthcare and private insurance. We may not obtain international coverage and reimbursement approvals in a timely manner, if at all. Our failure to receive such approvals would negatively impact market acceptance of our products in the international markets in which those approvals are sought.

We may not be able to convince physicians that iFuse is an attractive alternative to our competitors' products and that our procedure is an attractive alternative to existing surgical and non-surgical treatments of the sacroiliac joint.

Surgeons play the primary role in determining the course of treatment in consultation with their patients and, ultimately, the product that will be used to treat a patient. In order for us to sell our iFuse solution successfully, we must convince surgeons through education and training that treatment with iFuse is beneficial, safe, and cost effective for patients as compared to our competitors' products. If we are not successful in convincing surgeons of the merits of iFuse, they may not use our product, and we will be unable to increase our sales and achieve or grow profitability.

Historically, most spine surgeons did not include sacroiliac joint pain in their diagnostic work-up because they did not have an adequate surgical procedure to perform for patients diagnosed with the condition. As a result, some patients with lower back pain resulting from sacroiliac joint dysfunction are misdiagnosed. We believe that educating surgeons and other healthcare professionals about the clinical merits and patient benefits of iFuse is an important element of our growth. If we fail to effectively educate surgeons and other medical professionals, they may not include a sacroiliac joint evaluation as part of their diagnosis and, as a result, those patients may continue to receive unnecessary or only non-surgical treatment.

Surgeons may also hesitate to change their medical treatment practices for other reasons, including the following:

- lack of experience with minimally invasive procedures;
- perceived liability risks generally associated with the use of new products and procedures;
- costs associated with the purchase of new products; and
- time commitment that may be required for training.

Furthermore, we believe surgeons will not widely use iFuse unless they determine, based on experience, clinical data, and published peer-reviewed publications, that surgical intervention provides benefits or is an attractive alternative to non-surgical treatments of sacroiliac joint dysfunction. In addition, we believe support of

our products relies heavily on long-term data showing the benefits of using our products. If we are unable to provide that data, surgeons may not use our products. In such circumstances, we may not achieve expected sales and may be unable to achieve profitability.

Surgeons and payors may not find our clinical evidence to be compelling, which could limit our sales and revenue, and on-going and future research may prove our products to be less safe and effective than initially anticipated.

The products we currently market in the United States have either received premarket clearance under Section 510(k) of the U.S. Federal Food, Drug, and Cosmetic Act, or FDCA, or are exempt from premarket review. Those marketed in the European Union have been the subject of a CE Certificate of Conformity. The 510(k) clearance process of the U.S. Food and Drug Administration, or FDA, requires us to document that our product is "substantially equivalent" to another 510(k)-cleared products. The 510(k) process is shorter and typically requires the submission of less supporting documentation than other FDA approval processes, such as a premarket approval, or PMA, and does not usually require pre-clinical or clinical studies. Additionally, to date, we have not been required to complete clinical studies in connection with the sale of our products outside the United States. As a result, while there are a number of published studies relating to iFuse and minimally invasive sacroiliac joint surgery that support the safety and effectiveness of our product and the benefits it offers, our clinical studies may lack the size and scope of randomized controlled clinical trials required to support approval of a PMA. For these reasons, surgeons may be slow to adopt our products, third-party payors may be slow to provide coverage, and we may be subject to greater regulatory and product liability risks. Further, future patient studies or clinical experience may indicate that treatment with our products does not improve patient outcomes. Such results would slow the adoption of our products by surgeons, significantly reduce our ability to achieve expected sales, and could prevent us from achieving profitability. Moreover, if future results and experience indicate that our products cause unexpected or serious complications or other unforeseen negative effects, we could be subject to mandatory product recalls, suspension, or withdrawal of FDA clearance, and suspension, variation, or withdrawal of our CE Certificates of Conformity, significant legal liability or harm to our business reputation, which could have a material adverse effect on our results or operations and financial condition.

Pricing pressure from our competitors, changes in third-party coverage and reimbursement, healthcare provider consolidation, payor consolidation and the proliferation of "physician owned distributorships" may impact our ability to sell our product at prices necessary to support our current business strategies.

If competitive forces drive down the prices we are able to charge for our product, our profit margins will shrink, which will adversely affect our ability to invest in and grow our business. The sacroiliac joint fusion market has attracted numerous new companies and technologies. As a result of this increased competition, we believe there will be continuing increased pricing pressure with respect to our products.

Even to the extent our product and procedures using our product are currently covered and reimbursed by third-party private and public payors, adverse changes in coverage and reimbursement policies that affect our products, discounts, and number of implants used may also drive our prices down and harm our ability to market and sell our products.

We are unable to predict what changes will be made to the reimbursement methodologies used by third- party payors. We cannot be certain that under current and future payment systems, in which healthcare providers may be reimbursed a set amount based on the type of procedure performed, such as those utilized by Medicare and in many privately managed care systems, the cost of our products will be justified and incorporated into the overall cost of the procedure. In addition, to the extent there is a shift from inpatient setting to outpatient settings, we may experience pricing pressure and a reduction in the number of iFuse Procedures performed.

Consolidation in the healthcare industry, including both third-party payors and healthcare providers, could lead to demands for price concessions or to the exclusion of some suppliers from certain of our markets, which

could have an adverse effect on our business, results of operations, or financial condition. Because healthcare costs have risen significantly over the past several years, numerous initiatives and reforms initiated by legislators, regulators, and third-party payors to curb these costs have resulted in a consolidation trend in the healthcare industry to aggregate purchasing power. As the healthcare industry consolidates, competition to provide products and services to industry participants has become and will continue to become more intense. This in turn has resulted and will likely continue to result in greater pricing pressures and the exclusion of certain suppliers from important market segments as group purchasing organizations, independent delivery networks, and large single accounts continue to use their market power to consolidate purchasing decisions for hospitals. We expect that market demand, government regulation, third-party coverage, and reimbursement policies and societal pressures will continue to change the worldwide healthcare industry, resulting in further business consolidations and alliances among our customers, which may reduce competition, exert further downward pressure on the prices of our products, and adversely impact our business, results of operations, or financial condition. As we continue to expand into international markets, we will face similar risks relating to adverse changes in coverage and reimbursement procedures and policies in those markets.

Physician-owned distributorships, or PODs, are medical device distributors that are owned, directly or indirectly, by physicians. These physicians profit from selling or arranging the sale of medical devices for use in procedures they perform on their own patients at hospitals that purchase the devices from the POD. We currently do not engage with PODs. The proliferation 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.

We operate in a very competitive business environment, and if we are unable to compete successfully against our existing or potential competitors, our sales and operating results may be negatively affected and we may not grow.

Our currently marketed products are, and any future products we commercialize will likely be, subject to intense competition. The number of competitors that we are aware of marketing sacroiliac joint fusion products in the United States has grown from zero to 18 since 2008. Many of our current and potential competitors are major medical device companies that have substantially greater financial, technical, and marketing resources than we do, and they may succeed in developing products that would render our products obsolete or noncompetitive. In addition, many of these competitors have significantly longer operating history and more established reputations than we do. Our field is intensely competitive, subject to rapid change and highly sensitive to the introduction of new products or other market activities of industry participants. Our ability to compete successfully will depend on our ability to develop proprietary products that reach the market in a timely manner, receive adequate coverage and reimbursement from third-party payors, and are safer, less invasive, and more effective than alternatives available for similar purposes as demonstrated in peer-reviewed clinical publications. Because of the size of the potential market, we anticipate that other companies will dedicate significant resources to developing competing products.

We believe that our primary competitors currently are Medtronic plc, Globus Medical, Inc., X-Spine Systems, Inc. (which is also distributed by Zimmer under a different trade name), and Zyga Technology, Inc. At any time, these or other industry participants may develop alternative treatments, products or procedures for the treatment of the sacroiliac joint that compete directly or indirectly with our products. They may also develop and patent processes or products earlier than we can or obtain domestic and international regulatory clearances or approvals and CE Certificates of Conformity for competing products in the European Economic Area, or EEA, more rapidly than we can, which could impair our ability to develop and commercialize similar processes or products. If alternative treatments are, or are perceived to be, superior to our products, sales of our products and our results of operations could be negatively affected.

Some of our larger competitors are either publicly traded or divisions or subsidiaries of publicly traded companies. These competitors may enjoy several competitive advantages over us, including:

- greater financial, human, and other resources for product research and development, sales and marketing and legal matters;
- significantly greater name recognition;
- established relationships with surgeons, hospitals, and other healthcare providers;
- large and established sales and marketing and distribution networks;
- greater experience in obtaining and maintaining domestic and international regulatory clearances or approvals, or CE Certificates of Conformity for products and product enhancements;
- more expansive portfolios of intellectual property rights; and
- greater ability to cross-sell their products or to incentivize hospitals or surgeons to use their products.

New participants have increasingly entered the medical device industry. Many of these new competitors specialize in a specific product or focus on a particular market segment, making it more difficult for us to increase our overall market position. The frequent introduction by competitors of products that are or claim to be superior to our products or that are alternatives to our existing or planned products may make it difficult to differentiate the benefits of our products over competing products. In addition, the entry of multiple new products and competitors may lead some of our competitors to employ pricing strategies that could adversely affect the pricing of our products and pricing in the market generally.

As a result, without the timely introduction of new products and enhancements, our products may become obsolete over time. If we are unable to develop innovative new products, maintain competitive pricing, and offer products that surgeons and other physicians perceive to be as reliable as those of our competitors, our sales or margins could decrease, thereby harming our business.

We currently manufacture and sell only one family of products, which could negatively affect our operations and financial condition.

We do not sell any product other than iFuse and related tools and instruments. Therefore, we are solely dependent on widespread market adoption of iFuse and we will continue to be dependent on the success of this single product for the foreseeable future. There can be no assurance that iFuse will gain a substantial degree of market acceptance among surgeons, patients or healthcare providers. Our failure to successfully increase sales of iFuse or any other event impeding our ability to sell iFuse, would result in a material adverse effect on our results of operations, financial condition and continuing operations.

If we are unable to maintain and expand our network of direct sales representatives and third-party distributors, we may not be able to generate anticipated sales.

As of December 31, 2016, our U.S. sales force consisted of 43 sales representatives directly employed by us and 12 third-party distributors. As of December 31, 2016, our international sales force consisted of 11 sales representatives and 29 exclusive third-party distributors, which together have had sales in 27 countries in 2016. Our operating results are directly dependent upon the sales and marketing efforts of both our direct sales force and of our third-party distributors.

As we launch new products and increase our marketing efforts with respect to existing products, we will need to expand the reach of our marketing and sales networks. Our future success will depend largely on our ability to continue to hire, train, retain and motivate skilled direct sales representatives and third-party distributors with significant technical knowledge in various areas, such as spine health and treatment. New hires

require training and take time to achieve full productivity. If we fail to train new hires adequately, or if we experience high turnover in our sales force in the future, we cannot be certain that new hires will become as productive as may be necessary to maintain or increase our sales. Our intention is for our direct sales representatives and third-party distributors to develop long-lasting relationships with the surgeons they serve. If our direct sales representatives or third-party distributors fail to adequately promote, market and sell our products or decide to leave or cease to do business with us, our sales could significantly decrease.

We face significant challenges and risks in managing our geographically dispersed distribution network and retaining the individuals who make up that network. Some of our international third-party distributors account for a significant portion of our international sales volume, and if any such third-party distributor were to cease to distribute our products, our sales could be adversely affected. In such a situation, we may need to seek alternative third-party distributors or increase our reliance on our direct sales representatives, which may not prevent our sales from being adversely affected. If a direct sales representative or third-party distributor were to depart and be retained by one of our competitors, we may be unable to prevent them from helping competitors solicit business from our existing customers, which could further adversely affect our sales. Because of the intense competition for their services, we may be unable to recruit or retain additional qualified third-party distributors or to hire additional direct sales representatives to work with us. Furthermore, we may not be able to enter into agreements with them on favorable or commercially reasonable terms, if at all. Failure to hire or retain qualified direct sales representatives or third-party distributors would prevent us from expanding our business and generating sales.

In addition, distribution arrangements are complex and time-consuming to negotiate and document, especially outside the United States. We may not be able to negotiate distribution arrangements on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of our products, delay their potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our products or bring them to market and generate revenue.

If we are unable to expand our sales and marketing capabilities domestically and internationally, we may not be able to effectively commercialize our products, which would adversely affect our business, results of operations, and financial condition.

We have a limited operating history and may face difficulties encountered by early stage companies in new and rapidly evolving markets.

We were formed in 2008. Accordingly, we have a limited operating history upon which to base an evaluation of our business and prospects. In assessing our prospects, you must consider the risks and difficulties frequently encountered by early stage companies in new and rapidly evolving markets, particularly companies engaged in the development and sales of medical devices. These risks include our inability to:

- increase coverage by third-party, private, and government payors;
- establish and increase awareness of our brand and strengthen customer loyalty;
- obtain domestic and international regulatory clearances or approvals, and CE Certificates of Conformity;
- conformity to commercialize new products and enhance our existing products;
- manage rapidly changing and expanding operations;
- grow our direct sales force and increase the number of our third-party distributors to expand sales of our products in the United States and in targeted international markets;

- implement and successfully execute our business and marketing strategy;
- respond effectively to competitive pressures and developments;
- continue to develop and enhance our products and product candidates;
- expand our presence and commence operations in international markets;
- perform clinical research and trials on our existing products and current and future product candidates; and
- attract and retain qualified personnel.

We can also be negatively affected by general economic conditions. Because of our limited operating history, we may not have insight into trends that could emerge and negatively affect our business. As a result of these or other risks, our business strategy might not be successful.

Our sales volumes and our operating results may fluctuate over the course of the year.

We have experienced and continue to experience meaningful variability in our sales and gross profit from quarter to quarter, as well as within each quarter, as a result of a number of factors, including, among other things:

- payor coverage and reimbursement;
- the number of products sold in the quarter;
- the demand for, and pricing of, our products and the products of our competitors;
- the timing of or failure to obtain domestic and international regulatory clearances, approvals, or CE Certificates of Conformity to commercialize new products and enhance our existing products;
- costs, benefits, and timing of new product introductions;
- increased competition;
- the availability and cost of components and materials;
- the number of selling days in the quarter;
- fluctuation in foreign currency exchange rates; and
- impairment and other special charges.

If our business strategy proves to be flawed or if we do not successfully implement our business strategy, our business and results of operations will be adversely affected.

Our business strategy was based on assumptions about the market that might prove wrong. We believe that various demographics and industry-specific trends will help drive growth in the market and our business, but these demographics and trends have been and will continue to be uncertain. Actual demand for our products could differ materially from projected demand if our assumptions regarding these factors prove to be incorrect or do not materialize, or if alternative treatments to those offered by our products gain widespread acceptance.

To implement our business strategy we need to, among other things, develop and introduce new products, find new applications for and improve our existing products, obtain new domestic and international regulatory clearances or approvals and CE Certificates of Conformity and domestic and international regulatory clearance or approval for new products and applications, and educate surgeons or payors about the clinical benefits and cost effectiveness of our products. We may not be able to successfully implement our business strategy. Also, our strategy of focusing exclusively on the sacroiliac joint market may limit our ability to grow. In addition, in order

to increase our sales, we will need to commercialize additional products and expand our direct and third-party distributor sales forces in existing and new regions, all of which could result in our becoming subject to additional or different foreign and domestic regulatory requirements, with which we may not be able to comply. Moreover, we may decide to alter or discontinue aspects of our business strategy and may adopt different strategies due to business or competitive factors not currently foreseen, such as new medical technologies that would make our products obsolete. Any failure to implement our business strategy may adversely affect our business, results of operations, and financial condition.

Our business could suffer if we lose the services of key members of our senior management, key advisors or personnel.

We are dependent upon the continued services of key members of our senior management and a limited number of key advisors and personnel. In particular, we are highly dependent on the skills and leadership of our President, Chief Executive Officer and Chairman, Jeffrey W. Dunn. The loss of members of our senior management team, key advisors or personnel, or our inability to attract or retain other qualified personnel or advisors, could have a material adverse effect on our business, results of operations, and financial condition. In addition, several of the members of our executive management team are not subject to non-competition agreements that restrict their ability to compete with us. Accordingly, the adverse effect resulting from the loss of certain executives could be compounded by our inability to prevent them from competing with us.

Although it will be subject to lock-up agreements and other restrictions on trading, a portion of the equity of our management team will not contain other contractual transfer restrictions at the time of this offering and may become tradable after the expiration of the 180-day lock-up agreement with the underwriters. This liquidity may represent material wealth to such individuals and impact retention and focus of existing key members of management.

Our products and product candidates may have undesirable side effects which may require them to be taken off the market, require them to include safety warnings or otherwise limit their sales.

Unforeseen adverse events related to our products or product candidates could arise either during clinical development or, if cleared, approved, or subject to CE Certificate of Conformity, after the product has been marketed. In clinical research, the most common adverse event related to our implant was leg pain resulting from misplacement. The most common adverse event for our implant procedure has been minor wound infections. Additional adverse effects from iFuse or any of our other products or product candidates could arise either during clinical development or, if approved, cleared, or subject to CE Certificate of Conformity, after the product has been marketed.

If we or others later identify adverse events caused by our products:

- sales of the product may decrease significantly and we may not achieve the anticipated market share;
- regulatory authorities or our Notified Body may require changes to the labeling of our product. This may include the addition of labeling statements, specific warnings, and contraindications and issuing field alerts to physicians and patients;
- we may be required to change instructions regarding the way the product is implanted or conduct additional clinical trials;
- we may be subject to limitations on how we may promote the product;
- regulatory authorities may require us to take our approved product off the market (temporarily or permanently) or to conduct other field safety corrective actions;
- we may be required to modify our product;

- we may be subject to litigation fines or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase commercialization costs and expenses, which in turn could delay or prevent us from generating significant revenue from the sale of our products.

Various factors outside our direct control may adversely affect manufacturing, sterilization, and distribution of our products.

The manufacture, sterilization, and distribution of our products is challenging. Changes that our suppliers may make outside the purview of our direct control can have an impact on our processes, quality of our products, and the successful delivery of products to our customers. Mistakes and mishandling are not uncommon and can affect supply and delivery. Some of these risks include:

- failure to complete sterilization on time or in compliance with the required regulatory standards;
- transportation and import and export risk;
- delays in analytical results or failure of analytical techniques that we will depend on for quality control and release of products;
- natural disasters, labor disputes, financial distress, raw material availability, issues with facilities and equipment, or other forms of disruption to business operations affecting our manufacturers or suppliers; and
- latent defects that may become apparent after products have been released and that may result in a recall of such products.

If any of these risks were to materialize, our ability to provide our products to customers on a timely basis would be adversely impacted.

We are dependent on a limited number of third-party suppliers, some of them single-source and some of them in single locations, for most of our products and components, and the loss of any of these suppliers, or their inability to provide us with an adequate supply of materials in a timely and cost effective manner, could materially adversely affect our business.

We rely on third-party suppliers to supply substantially all of our products. For us to be successful, our suppliers must be able to provide us with products and components in substantial quantities, in compliance with regulatory requirements, in accordance with agreed upon specifications, at acceptable prices, and on a timely basis. We do not have long-term supply contracts for some of our suppliers, and in some cases, even where we do have agreements in place, we purchase important parts of the iFuse Implant System from a single supplier. Therefore, we cannot assure you that we will be able to obtain sufficient quantities of product in the future.

In addition, our anticipated growth could strain the ability of our suppliers to deliver an increasingly large supply of products, materials, and components. Suppliers often experience difficulties in scaling up production, including financial issues, or problems with production yields and quality control and assurance. For example, from time to time, we have experienced certain delays and may experience delays from our suppliers in the future.

We generally use a small number of suppliers for our instruments and rely on one supplier, Orchid Bio-Coat, a division of Orchid Orthopedic Solutions LLC, for our iFuse Implants. Our dependence on such a limited number of suppliers exposes us to risks, including, among other things:

- third-party contract manufacturers or suppliers may fail to comply with regulatory requirements or make errors in manufacturing that could negatively affect the safety or effectiveness of our products or cause delays in shipments of our products;

- we or our third-party manufacturers and suppliers may not be able to respond to unanticipated changes in customer orders, and if orders do not match forecasts, we or our suppliers may have excess or inadequate inventory of materials and components;
- we or our third-party manufacturers and suppliers may be subject to price fluctuations due to a lack of long-term supply arrangements for key components;
- we or our third-party manufacturers and suppliers may lose access to critical services and components, resulting in an interruption in the manufacture, assembly and shipment of our systems;
- we may experience delays in delivery by our third-party manufacturers and suppliers due to changes in demand from us or their other customers;
- fluctuations in demand for products that our third-party manufacturers and suppliers manufacture for others may affect their ability or willingness to deliver components to us in a timely manner;
- our third-party manufacturers and suppliers may wish to discontinue supplying components or services to us for risk management reasons;
- we may not be able to find new or alternative components or reconfigure our system and manufacturing processes in a timely manner if the necessary components become unavailable; and
- our third-party manufacturers and suppliers may encounter financial hardships unrelated to our demand, which could inhibit their ability to fulfill our orders and meet our requirements.

If any one or more of these risks materialize, it could significantly increase our costs and impact our ability to meet demand for our products. If we are unable to satisfy commercial demand for our system in a timely manner, our ability to generate revenue would be impaired, market acceptance of our products could be adversely affected, and customers may instead purchase or use our competitors' products. Additionally, we could be forced to seek alternative sources of supply.

In addition, most of our supply and manufacturing agreements do not have minimum manufacturing or purchase obligations. As such, we have no obligation to buy any given quantity of products, and our suppliers have no obligation to sell us or to manufacture for us any given quantity of components or products. As a result, our ability to purchase adequate quantities of components or our products may be limited and we may not be able to convince suppliers to make components and products available to us. Our suppliers may also encounter problems that limit their ability to supply components or manufacture products for us, including financial difficulties, damage to their manufacturing equipment or facilities, or product discontinuations. As a result, there is a risk that certain components could be discontinued and no longer available to us. We may be required to make significant "last time" purchases of component inventory that is being discontinued by the supplier to ensure supply continuity. If we fail to obtain sufficient quantities of high quality components to meet demand for our products in a timely manner or on terms acceptable to us, we would have to seek alternative sources of supply. Securing a replacement third-party manufacturer or supplier could be difficult. The introduction of new or alternative manufacturers or suppliers also may require design changes to our iFuse that are subject to domestic and international regulatory clearances or approvals and the review of our Notified Body.

Because of the nature of our internal quality control requirements, regulatory requirements, and the custom and proprietary nature of the parts, we may not be able to quickly engage additional or replacement suppliers for many of our critical components. We may also be required to assess any potential new manufacturer's compliance with all applicable regulations and guidelines, which could further impede our ability to manufacture our products in a timely manner. As a result, we could incur increased production costs, experience delays in deliveries of our products, suffer damage to our reputation, and experience an adverse effect on our business and financial results. Failure of any of our third-party suppliers to meet our product demand level would limit our ability to meet our sales commitments to our customers and could have a material adverse effect on our business.

We may also have difficulty obtaining similar components from other suppliers that are acceptable to the FDA our Notified Body the competent authorities or countries of the countries of the EEA, or other foreign regulatory authorities, and the failure of our suppliers to comply with strictly enforced regulatory requirements could expose us to delays in obtaining clearances or approvals, regulatory action including warning letters, product recalls, termination of distribution, product seizures, civil, administrative, or criminal penalties and the suspension, variation, or withdrawal of our CE Certificates of Conformity. We could incur delays while we locate and engage qualified alternative suppliers, and we may be unable to engage alternative suppliers on favorable terms or at all. Any such disruption or increased expenses could harm our commercialization efforts and adversely affect our ability to generate sales.

In addition, each of our third-party suppliers operates at a facility in a single location and substantially all of our inventory of component supplies and finished goods is held at these locations. We, and our suppliers, take precautions to safeguard facilities, including acquiring insurance, employing back-up generators, adopting health and safety protocols, and utilizing off-site storage of computer data. However, vandalism, terrorism, or a natural or other disaster, such as an earthquake, fire, or flood, could damage or destroy equipment or our inventory of component supplies or finished products, cause substantial delays in our operations, result in the loss of key information, and cause us to incur additional expenses. Our insurance may not cover our losses in any particular case. In addition, regardless of the level of insurance coverage, damage to our or our suppliers' facilities could harm our business, financial condition, and operating results.

As our sales grow, we may encounter problems or delays in the assembly of our products or fail to meet certain regulatory requirements which could result in an adverse effect on our business and financial results.

To become profitable, we must assemble our products in adequate quantities in compliance with regulatory requirements and at an acceptable cost. Increasing our capacity to assemble and test our products will require us to improve internal efficiencies. We may encounter a number of difficulties in increasing our assembly and testing capacity, including:

- managing production yields;
- maintaining quality control and assurance;
- providing component and service availability;
- maintaining adequate control policies and procedures;
- hiring and retaining qualified personnel; and
- complying with state, federal, and foreign regulations.

If we are unable to satisfy commercial demand for our iFuse solution due to our inability to assemble and test, our ability to generate revenue would be impaired, market acceptance of our products could be adversely affected and customers may instead purchase or use our competitors' products.

If we do not enhance our product offerings through our research and development efforts, we may be unable to compete effectively.

In order to increase our market share in the sacroiliac joint fusion market, we must enhance and broaden our product offerings in response to changing customer demands and competitive pressures and technologies. We might not be able to successfully develop, obtain domestic and international regulatory clearances or approvals, or CE Certificates of Conformity for, or market new products, and our future products might not be accepted by the surgeons or the third-party payors who reimburse for many of the procedures performed with our products. The success of any new product offering or enhancement to an existing product will depend on numerous factors, including our ability to:

- properly identify and anticipate surgeon and patient needs;

- develop and introduce new products or product enhancements in a timely manner;
- adequately protect our intellectual property and avoid infringing upon the intellectual property rights of third parties;
- demonstrate the safety and effectiveness of new products; and
- obtain the necessary domestic and international regulatory clearances or approvals and CE Certificates of Conformity for new products or product enhancements.

If we do not develop and obtain domestic and international regulatory clearances or approvals and CE Certificates of Conformity for new products or product enhancements in time to meet market demand, or if there is insufficient demand for these products or enhancements, our results of operations will suffer. Our research and development efforts may require a substantial investment of time and resources before we are adequately able to determine the commercial viability of a new product, technology, material, or other innovation. In addition, even if we are able to successfully develop enhancements or new generations of our products, these enhancements or new generations of products may not produce sales in excess of the costs of development and they may be quickly rendered obsolete by changing customer preferences or the introduction by our competitors of products embodying new technologies or features.

We are required to maintain adequate levels of inventory, the failure of which could consume our resources and reduce our cash flows.

As a result of the need to maintain adequate levels of inventory, we are subject to the risk of inventory obsolescence. Many of our products come in sets, which feature components in a variety of sizes so that the implant or device may be customized to the patient's needs. In order to market our products effectively, we often maintain and provide surgeons and hospitals with back-up products and products of different sizes. For each surgery, fewer than all of the components of the set are used, and therefore certain portions of the set may become obsolete before they can be used. In the event that a substantial portion of our inventory becomes obsolete, it could have a material adverse effect on our earnings and cash flows due to the resulting costs associated with the inventory impairment charges and costs required to replace such inventory.

The size and future growth in the market for iFuse has not been established with precision and may be smaller than we estimate, possibly materially. In addition, our estimates of cost savings to the economy and healthcare system as a result of the iFuse Procedure are based on our internal estimates and market research and could also be smaller than we estimate, possibly materially. If our estimates and projections overestimate the size of this market or cost savings, our sales growth may be adversely affected.

We are not aware of an independent third-party study that reliably reports the potential market size for iFuse or cost savings as a result of the iFuse Procedure. Therefore, our estimates of the size and future growth in the market for our iFuse products, including cost savings to the economy overall, including patients and employers, and to the healthcare system and the number of people currently suffering from lower back pain who may benefit from and be amenable to our iFuse Procedure, is based on a number of internal and third-party studies, surveys, reports, and estimates. While we believe these factors have historically provided and may continue to provide us with effective tools in estimating the total market for our iFuse products and procedures and health cost savings, these estimates may not be correct and the conditions supporting our estimates may change at any time, thereby reducing the predictive accuracy of these underlying factors. For example, the surveys we have conducted are based on a small number of respondents and are not statistically significant and may have other limitations. The actual incidence of lower back pain, and the actual demand for our products or competitive products, could differ materially from our projections if our assumptions and estimates are incorrect. As a result, our estimates of the size and future growth in the market for our iFuse products may prove to be incorrect. In addition, actual health cost savings to the healthcare system as a result of the iFuse Procedure may materially differ from those presented in this prospectus. If the actual number of people with lower back pain who would benefit from our

iFuse products and the size and future growth in the market for iFuse products and related costs savings to the healthcare system is smaller than we have estimated, it may impair our projected sales growth and have an adverse impact on our business.

Our results of operations could suffer if we are unable to manage our planned international expansion effectively.

Expansion into international markets is an element of our business strategy and involves risk. The sale and shipment of our products across international borders, as well as the purchase of components and products from international sources, subject us to extensive U.S. and foreign governmental trade, import, and export and customs regulations and laws. Compliance with these regulations and laws is costly and exposes us to penalties for non-compliance. Other laws and regulations that can significantly affect us include various anti-bribery laws, including the U.S. Foreign Corrupt Practices Act, or FCPA and the United Kingdom Bribery Act, or UKBA, anti- boycott laws, anti-money laundering laws, and regulations relating to economic sanctions imposed by the United States, including the Office of Foreign Asset Control of the U.S. Treasury. Any failure to comply with applicable legal and regulatory obligations in the United States or abroad could adversely affect us in a variety of ways that include, but are not limited to, significant criminal, civil and administrative penalties, including imprisonment of individuals, fines and penalties, denial of export privileges, seizure of shipments and restrictions on certain business activities. Also, the failure to comply with applicable legal and regulatory obligations could result in the disruption of our distribution and sales activities.

In addition, some of the countries in which we sell or plan to sell our products are, to some degree, subject to various risks, including:

- exposure to different legal and regulatory standards;
- lack of stringent protection of intellectual property;
- obstacles to obtaining domestic and foreign export, import, and other governmental approvals, permits, and licenses and compliance with foreign laws;
- potentially adverse tax consequences and the complexities of foreign value-added tax systems;
- adverse changes in tariffs and trade restrictions;
- limitations on the repatriation of earnings;
- difficulties in staffing and managing foreign operations;
- transportation delays and difficulties of managing international distribution channels;
- longer collection periods and difficulties in collecting receivables from foreign entities;
- increased financing costs;
- currency risks; and
- political, social, and economic instability and increased security concerns.

These risks may limit or disrupt our expansion, restrict the movement of funds or result in the deprivation of contractual rights or the taking of property by nationalization or expropriation without fair compensation.

Our goal of a successful international expansion depends, in part, on our ability to develop and implement policies and strategies that are effective in anticipating and managing these and other risks in the countries in which we plan to do business. Failure to manage these and other risks may have a material adverse effect on our operations in any particular country and on our business as a whole.

In the future our products may become obsolete, which would negatively affect operations and financial condition.

The medical device industry is characterized by rapid and significant change. There can be no assurance that other companies will not succeed in developing or marketing devices, and products that are more effective than our iFuse system or that would render the iFuse system obsolete or noncompetitive. Additionally, new surgical procedures, medications and other therapies could be developed that replace or reduce the importance of our product. Accordingly, our success will depend in part on our ability to respond quickly to medical and changes through the development and introduction of new products. Product development involves a high degree of risk and there can be no assurance that our new product development efforts will result in any commercially successful products.

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:

- sales and marketing, accounting, and financial functions;
- inventory management;
- engineering and product development tasks; and
- our research and development data.

Our information technology systems are vulnerable to damage or interruption 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, and legal liability issues, all of which could have a material adverse effect on our reputation, business, results of operations, and financial condition.

In addition, we accept payments for many of our sales through credit card transactions, which are handled through a third-party payment processor. As a result, we are subject to a number of risks related to credit card payments. As a result of these transactions, we pay interchange and other fees, which may increase over time and could require us to either increase the prices we charge for our products or experience an increase in our costs and expenses. In addition, as part of the payment processing process, we transmit our customers' credit card information to our third-party payment processor. We may in the future become subject to lawsuits or other proceedings for purportedly fraudulent transactions arising out of the actual or alleged theft of our customers' credit card information if the security of our third-party credit card payment processor is breached. We and our third-party credit card payment processor are also subject to payment card association operating rules, certification requirements and rules governing electronic funds transfers, which could change or be reinterpreted to make it difficult or impossible for us to comply. If we or our third-party credit card payment processor fail to comply with these rules or requirements, we may be subject to fines and higher transaction fees and lose our ability to accept credit card payments from our customers, and there may be an adverse impact on our business.

We may seek to grow our business through acquisitions of or investments in new or complementary businesses, products or technologies, and the failure to manage acquisitions or investments, or the failure to integrate them with our existing business, could have a material adverse effect on us.

From time to time, we expect to consider opportunities to acquire or make investments in other technologies, products, and businesses that may enhance our capabilities, complement our current products, or expand the breadth of our markets or customer base. Potential and completed acquisitions and strategic investments involve numerous risks, including:

- problems assimilating the purchased technologies, products, or business operations;
- issues maintaining uniform standards, procedures, controls, and policies;
- unanticipated costs and liabilities associated with acquisitions;
- diversion of management's attention from our core business;
- adverse effects on existing business relationships with suppliers and customers;
- risks associated with entering new markets in which we have limited or no experience;
- potential loss of key employees of acquired businesses; and
- increased legal and accounting compliance costs.

We have no current commitments with respect to any acquisition or investment. We do not know if we will be able to identify acquisitions we deem suitable, whether we will be able to successfully complete any such acquisitions on favorable terms or at all, or whether we will be able to successfully integrate any acquired business, product, or technology into our business or retain any key personnel, suppliers, or distributors. Our ability to successfully grow through acquisitions depends upon our ability to identify, negotiate, complete, and integrate suitable target businesses and to obtain any necessary financing. These efforts could be expensive and time-consuming, and may disrupt our ongoing business and prevent management from focusing on our operations. If we are unable to successfully integrate any acquired businesses, products, or technologies effectively, our business, results of operations, and financial condition will be materially adversely affected.

We may enter into collaborations, in-licensing arrangements, joint ventures, strategic alliances, or partnerships with third-parties that may not result in the development of commercially viable products or the generation of significant future revenue.

In the ordinary course of our business, we may enter into collaborations, in-licensing arrangements, joint ventures, strategic alliances, partnerships, or other arrangements to develop products and to pursue new markets. We have not entered into any collaboration arrangements to date. Proposing, negotiating, and implementing collaborations, in-licensing arrangements, joint ventures, strategic alliances, or partnerships may be a lengthy and complex process. Other companies, including those with substantially greater financial, marketing, sales, technology, or other business resources, may compete with us for these opportunities or arrangements. We may not identify, secure, or complete any such transactions or arrangements in a timely manner, on a cost-effective basis, on acceptable terms or at all. We have limited institutional knowledge and experience with respect to these business development activities, and we may also not realize the anticipated benefits of any such transaction or arrangement. In particular, these collaborations may not result in the development of products that achieve commercial success or result in significant revenue and could be terminated prior to developing any products.

Additionally, we may not be in a position to exercise sole decision making authority regarding the transaction or arrangement, which could create the potential risk of creating impasses on decisions, and our future collaborators may have economic or business interests or goals that are, or that may become, inconsistent with our business interests or goals. It is possible that conflicts may arise with our collaborators, such as conflicts concerning the achievement of performance milestones, or the interpretation of significant terms under any

agreement, such as those related to financial obligations or the ownership or control of intellectual property developed during the collaboration. If any conflicts arise with any future collaborators, they may act in their self- interest, which may be adverse to our best interest, and they may breach their obligations to us. In addition, we may have limited control over the amount and timing of resources that any future collaborators devote to our or their future products.

Disputes between us and our collaborators may result in litigation or arbitration which would increase our expenses and divert the attention of our management. Further, these transactions and arrangements will be contractual in nature and will generally be terminable under the terms of the applicable agreements and, in such event, we may not continue to have rights to the products relating to such transaction or arrangement or may need to purchase such rights at a premium. If we enter into in-bound intellectual property license agreements, we may not be able to fully protect the licensed intellectual property rights or maintain those licenses. Future licensors could retain the right to prosecute and defend the intellectual property rights licensed to us, in which case we would depend on the ability of our licensors to obtain, maintain and enforce intellectual property protection for the licensed intellectual property. These licensors may determine not to pursue litigation against other companies or may pursue such litigation less aggressively than we would. Further, entering into such license agreements could impose various diligence, commercialization, royalty, or other obligations on us. Future licensors may allege that we have breached our license agreement with them, and accordingly seek to terminate our license, which could adversely affect our competitive business position and harm our business prospects.

Risks Related to Our Financial Results and Need for Financing

We have incurred significant losses since our inception. We expect to incur losses over the next several years and may never achieve or maintain profitability.

Our recurring losses from operations and negative cash flows raise substantial doubt about our ability to continue as a going concern. As a result, an explanatory paragraph was included in the report on our financial statements as of, and for the year ended, December 31, 2016, describing the existence of substantial doubt about our ability to continue as a going concern. We will need to generate significant sales to achieve profitability and we might not be able to do so. Our expected future capital requirements may depend on many factors including expanding our surgeon base, the expansion of our salesforce, and the timing and extent of spending on the development of our technology to increase our product offerings. We may seek funds through borrowings or through additional rounds of financing, including private or public equity or debt offerings. Any future debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Furthermore, we cannot be certain that additional funding will be available on acceptable terms, if at all. If we are unable to raise additional capital or generate sufficient cash from operations to adequately fund our operations, we will need to curtail planned activities to reduce costs, which will likely harm our ability to execute on our business plan and continue operations.

Our future capital needs are uncertain and we may need to raise additional funds in the future, and such funds may not be available on acceptable terms or at all.

We believe that our current cash and cash equivalents, including the proceeds from this offering together with the cash to be generated from expected product sales, will be sufficient to meet our projected operating requirements for the next 12 months. However, continued expansion of our business will be expensive and we may seek additional funds from public and private stock offerings, borrowings under our existing or future credit facilities or other sources. Our capital requirements will depend on many factors, including:

- the revenues generated by sales of our products;
- the costs associated with expanding our sales and marketing efforts;
- the expenses we incur in manufacturing and selling our products;

- the costs of developing and commercializing new products or technologies;
- the cost of obtaining and maintaining domestic and international regulatory clearances or approvals, or CE Certificates of Conformity for our products and products in development;
- the number and timing of acquisitions and other strategic transactions;
- the costs associated with our planned international expansion;
- the costs associated with increased capital expenditures, including instrument sets to support surgeries; and
- unanticipated general and administrative expenses.

As a result of these factors, we may seek to raise additional capital, and such capital may not be available on favorable terms, or at all. Furthermore, if we issue equity or convertible debt securities to raise additional capital, our existing stockholders may experience dilution, and the holders of new equity or convertible debt securities may have rights, preferences and privileges senior to those of our existing stockholders. If we cannot raise capital on acceptable terms, we may not be able to develop or enhance our products, execute our business plan, take advantage of future opportunities, or respond to competitive pressures, changes in our supplier relationships, or unanticipated customer requirements. Any of these events could adversely affect our ability to achieve our development and commercialization goals, which could have a material adverse effect on our business, results of operations, and financial condition.

Our recurring losses from operations and negative cash flows raise substantial doubt about our ability to continue as a going concern. As a result, our independent registered public accounting firm included an explanatory paragraph in its report on our financial statements as of, and for the year ended, December 31, 2016, describing the existence of substantial doubt about our ability to continue as a going concern. We believe that the successful completion of this offering will eliminate this doubt and enable us to continue as a going concern; however, if we are unable to raise sufficient capital in this offering, we may need to obtain alternative financing or significantly modify our operational plans for us to continue as a going concern. Our expected future capital requirements may depend on many factors including expanding our surgeon base, the expansion of our salesforce, and the timing and extent of spending on the development of our technology to increase our product offerings. We may need additional funding to fund our operations but additional funds may not be available to us on acceptable terms on a timely basis, if at all. We may seek funds through borrowings or through additional rounds of financing, including private or public equity or debt offerings. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Any future debt financing into which we enter may impose upon us additional covenants that restrict our operations, including limitations on our ability to incur liens or additional debt, pay dividends, repurchase our common stock, make certain investments and engage in certain merger, consolidation or asset sale transactions. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Furthermore, we cannot be certain that additional funding will be available on acceptable terms, if at all. If we are unable to raise additional capital or generate sufficient cash from operations to adequately fund our operations, we will need to curtail planned activities to reduce costs, which will likely harm our ability to execute on our business plan.

Our quarterly operating results may fluctuate significantly.

Our operating results are difficult to predict and may be subject to quarterly fluctuations. Our sales and results of operations will be affected by numerous factors, including those set forth in “Risk Factors” as well as:

- our ability to drive increased sales of our products;
- our ability to establish and maintain an effective and dedicated sales force;
- pricing pressure applicable to our products, including adverse third-party coverage and reimbursement outcomes;

- results of clinical research and trials on our existing products and products in development;
- the mix of our products sold because profit margins differ amongst our products;
- timing of new product offerings, acquisitions, licenses or other significant events by us or our competitors;
- the ability of our suppliers to timely provide us with an adequate supply of materials and components;
- the evolving product offerings of our competitors;
- factors that may affect the sale of our products, including seasonality and budgets of our customers;
- domestic and international regulatory clearances or approvals, or CE Certificates of Conformity, and legislative changes affecting the products we may offer or those of our competitors;
- interruption in the manufacturing or distribution of our products;
- the effect of competing technological, industry and market developments;
- changes in our ability to obtain domestic and international regulatory clearances or approvals, or CE Certificates of Conformity for our products;
- our ability to expand the geographic reach of our sales and marketing efforts; and
- the costs of maintaining adequate insurance coverage, including product liability insurance.

Some of the products we may seek to develop and introduce in the future will require FDA clearance or approval before commercialization in the United States, and commercialization of such products outside of the United States would likely require additional regulatory approvals, or Certificates of Conformity and import licenses. As a result, it will be difficult for us to forecast demand for these products with any degree of certainty. In addition, we will be increasing our operating expenses as we expand our commercial capabilities. Accordingly, we may experience significant, unanticipated quarterly losses. If our quarterly or annual operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly or annual fluctuations in our operating results may, in turn, cause the price of our common stock to fluctuate substantially. Quarterly comparisons of our financial results may not always be meaningful and should not be relied upon as an indication of our future performance.

We may not be able to access the capital we need under our current credit facilities on a timely basis or at all.

As of the date of this prospectus, we had total borrowings of $30.2 million, which is the maximum currently available to us under the term loan component of our credit facility with Oxford Finance LLC, or Oxford, and Silicon Valley Bank, or SVB. We have an additional line of credit for $4.0 million that we can draw from the same institutions. There can be no assurance that we will have access to the capital we will need for our business.

Prolonged negative economic conditions in domestic and global markets may adversely affect us, our suppliers, counterparties, and consumers, which could harm our financial position.

Global credit and financial markets have experienced extreme disruptions in the past decade, 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 again. Our general business strategy may be adversely affected by such an economic downturn and volatile business environment and unpredictable and unstable market conditions. In addition, there is a risk that one or more of our current service providers, suppliers and other partners may not continue to operate, which could directly affect our ability to attain our operating goals on schedule and on budget. Any lender that is obligated to provide funding to us under any existing or 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, which in turn may adversely affect our business, results of operations, or financial condition. We also manage cash and cash equivalents through a single financial institution in the United States. There may be a risk of loss on investments based on the volatility of the underlying instruments that will prevent us from recovering the full principal of our investments. These negative changes in domestic and global 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 stock price, business, results of operations, financial condition, and liquidity.

Our existing credit facilities contain restrictive covenants that may limit our operating flexibility.

Our existing credit facilities with Oxford and SVB contain certain restrictive covenants that limit our ability to transfer or dispose of assets, merge with other companies or consummate certain changes of control, acquire other companies, pay dividends, incur additional indebtedness and liens, transfer assets above a certain level to our subsidiaries, experience changes in management, and enter into new businesses. We therefore may not be able to engage in any of the foregoing transactions unless we obtain the consent of the lender or terminate the credit facility. There is no guarantee that we will be able to generate sufficient cash flow or sales to meet the financial covenants or pay the principal and interest on any such debt. Furthermore, there is no guarantee that future working capital, borrowings, or equity financing will be available to repay or refinance any such debt.

Risks Related to Our Legal and Regulatory Environment

We, our suppliers, and our third-party manufacturers are subject to extensive governmental regulation both in the United States and abroad and failure to comply with applicable requirements could cause our business to suffer.

The medical device industry is regulated extensively by governmental authorities, principally the FDA and corresponding state and foreign regulatory agencies. The FDA and other U.S. and foreign governmental agencies regulate, among other things, with respect to medical devices:

- design, development, and manufacturing;
- testing, labeling, content, and language of instructions for use and storage;
- clinical trials;
- product safety;
- marketing, sales, and distribution;
- premarket clearance and approval;
- conformity assessment procedures;
- record keeping procedures;
- advertising and promotion;
- compliance with good manufacturing practices requirements;
- recalls and field safety corrective actions;
- post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to death or serious injury;
- post-market approval studies; and
- product import and export.

The regulations to which we are subject are complex and have tended to become more stringent over time. Regulatory changes could result in restrictions on our ability to carry on or expand our operations, difficulties achieving new product clearances, higher than anticipated costs or lower than anticipated sales.

Before we can market or sell a new regulated product or make a significant modification to an existing product in the United States, with very limited exception, we must obtain either clearance under Section 510(k) of the FDCA for Class II devices or approval of a premarket approval, or PMA, application from the FDA for a Class III device. In the 510(k) clearance process, the FDA must determine that a proposed device is "substantially equivalent" to a device legally on the market, known as a "predicate" device, with respect to intended use, technology, and safety and effectiveness, in order to clear the proposed device for marketing. Clinical data is sometimes required to support substantial equivalence. The PMA pathway requires an applicant to demonstrate the safety and effectiveness of the device based, in part, on extensive data, including, but not limited to, technical, preclinical, clinical trial, manufacturing, and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life-sustaining, life-supporting, or implantable devices. Products that are approved through a PMA application generally need FDA approval before they can be modified. Similarly, some modifications made to products cleared through a 510(k) may require a new 510(k). Both the 510(k) and PMA processes can be expensive and lengthy and require the payment of significant fees, unless exempt. The FDA's 510(k) clearance process usually takes from three to 12 months, but may last longer. The process of obtaining a PMA is much more costly and uncertain than the 510(k) clearance process and generally takes from one to three years, or even longer, from the time the application is submitted to the FDA until an approval is obtained. The process of obtaining domestic and international regulatory clearances or approvals to market a medical device can be costly and time-consuming, and we may not be able to obtain these clearances or approvals on a timely basis, if at all.

In the United States, our currently commercialized products have either received premarket clearance under Section 510(k) of the FDCA or are exempt from premarket review. If the FDA requires us to go through a lengthier, more rigorous examination for future products or modifications to existing products than we had expected, our product introductions or modifications could be delayed or canceled, which could cause our sales to decline. In addition, the FDA may determine that future products will require the more costly, lengthy, and uncertain PMA process. Although we do not currently market any devices under PMA, the FDA may demand that we obtain a PMA prior to marketing certain of our future products. In addition, if the FDA disagrees with our determination that a product we currently market is subject to an exemption from premarket review, the FDA may require us to submit a 510(k) or PMA in order to continue marketing the product. Further, even with respect to those future products where a PMA is not required, we cannot assure you that we will be able to obtain the 510(k) clearances with respect to those products.

The FDA can delay, limit or deny clearance or approval of a device for many reasons, including:

- we may not be able to demonstrate to the FDA's satisfaction that our products are safe and effective for their intended users;
- the data from our pre-clinical studies and clinical trials may be insufficient to support clearance or approval, where required; and
- the manufacturing process or facilities we use may not meet applicable requirements.

In addition, the FDA may change its clearance and approval policies, adopt additional regulations or revise existing regulations, or take other actions which may prevent or delay clearance or approval of our products under development or impact our ability to modify our currently approved or cleared products on a timely basis.

Any delay in, or failure to receive or maintain, clearance or approval for our products under development could prevent us from generating revenue from these products or achieving profitability.

In addition, even after we have obtained the proper regulatory clearance or approval to market a product, the FDA has the power to require us to conduct postmarketing studies. These studies can be very expensive and

time-consuming to conduct. Failure to comply with those studies in a timely manner could result in the revocation of the 510(k) clearance for a product that is subject to such a 522 Order and the recall or withdrawal of the product, which could prevent us from generating sales from that product in the United States.

In the EEA, our medical devices must comply with the Essential Requirements set forth in Annex I to the EU Medical Devices Directive (Council Directive 93/42/EEC), or Essential Requirements. Compliance with these requirements is a prerequisite to be able to affix the CE mark to our medical devices, without which they cannot be marketed or sold in the EEA. To demonstrate compliance with the Essential Requirements we must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. Except for low risk medical devices (Class I), where the manufacturer can issue an EC Declaration of Conformity based on a self-assessment of the conformity of its products with the Essential Requirements, a conformity assessment procedure requires the intervention of a third party organization designated by the competent authorities of a EEA country to conduct conformity assessments, known as a Notified Body. The Notified Body would typically audit and examine the medical device's Technical File, the quality system for the manufacture, design and conduct a final inspection of our medical devices before issuing a CE Certificate of Conformity demonstrating compliance with the Essential Requirements or the QSR of the Medical Devices Directive.

Additionally, as part of the conformity assessment process, medical device manufacturers must carry out a clinical evaluation of their medical devices to verify that they comply with the relevant Essential Requirements covering safety and performance. A clinical evaluation includes an assessment of whether a medical device's performance is in accordance with its intended use and that the known and foreseeable risks linked to the use of the device under normal conditions are minimized and acceptable when weighed against the benefits of its intended purpose. The clinical evaluation conducted by the manufacturer must also address any clinical claims, the adequacy of the device labeling and information (particularly claims, contraindications, precautions/ warnings) and the suitability of related Instructions for Use. This assessment must be based on clinical data, which can be obtained from (i) clinical studies conducted on the devices being assessed; (ii) scientific literature from similar devices whose equivalence with the assessed device can be demonstrated; or (iii) both clinical studies and scientific literature. With respect to implantable devices, or devices classified as Class III in the EU, the manufacturer must conduct clinical studies to obtain the required clinical data, unless the relying on existing clinical data from similar devices can be justified. As part of the conformity assessment procedure, depending on the type of devices, the Notified Body will review the manufacturer's clinical evaluation for the medical device. The conduct of clinical studies to obtain clinical data that might be required as part of the described clinical evaluation process can be expensive and time-consuming.

The FDA and other regulatory authorities have broad enforcement powers. Regulatory enforcement or inquiries, or other increased scrutiny on us, could dissuade some surgeons from using our products and adversely affect our reputation and the perceived safety and effectiveness of our products.

Failure to comply with applicable regulations could jeopardize our ability to sell our products and result in enforcement actions such as:

- warning letters;
- fines;
- injunctions;
- civil penalties;
- termination of distribution;
- recalls or seizures of products;
- delays in the introduction of products into the market;

- total or partial suspension of production;
- facility closures;
- refusal of the FDA or our Notified Body or other regulator to grant future clearances or approvals or to issue CE Certificates of Conformity;
- withdrawals or suspensions of current clearances or approvals and CE Certificates of Conformity, resulting in prohibitions on sales of our products; and/or
- in the most serious cases, criminal penalties.

Adverse action by an applicable regulatory agency, our Notified Body or the FDA could result in inability to produce our products in a cost-effective and timely manner, or at all, decreased sales, higher prices, lower margins, additional unplanned costs or actions, damage to our reputation, and could have material adverse effect on our reputation, business, results of operations, and financial condition.

We and our distributor sales representatives must comply with U.S. federal and state fraud and abuse laws, including anti-kickback and false claims and equivalent foreign rules.

Healthcare providers, specialty distributors, physicians, and third-party payors play a primary role in the distribution, recommendation, ordering, and purchasing of any implant or other medical device for which we have or obtain marketing clearance or approval. Through our arrangements with customers and third-party payors, we are exposed to the risk that our employees, independent contractors, principal investigators, consultants, vendors, or third-party distributors may engage in fraudulent or other illegal activity. Misconduct by these parties could include, among other infractions or violations, intentional, reckless and/or negligent conduct or unauthorized activity that violates FDA regulations, manufacturing standards, federal and state healthcare fraud and abuse laws and regulations, laws that require the true, complete, and accurate reporting of financial information or data, other commercial or regulatory laws or requirements, and equivalent foreign rules. We have a Compliance program, Code of Conduct, and associated policies and procedures, but it is not always possible to identify and deter misconduct by our employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations, and government authorities may conclude that our business practices do not comply with applicable fraud and abuse or other healthcare laws and regulations or guidance despite our good faith efforts to comply.

There are numerous U.S. federal and state laws pertaining to healthcare fraud and abuse, including anti- kickback and false claims laws. Our relationships and our distributors' relationships with surgeons, other healthcare professionals, and hospitals are subject to scrutiny under these laws.

Healthcare fraud and abuse laws and related regulations are complex, and even minor irregularities can potentially give rise to claims that a statute or prohibition has been violated. The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, items or services for which payment may be made, in whole or in part, under federal healthcare programs, such as the Medicare and Medicaid programs;
- the federal civil False Claims Act, which prohibits, among other things, individuals or entities from knowingly presenting, or causing to be presented, false or fraudulent claims for payment of government funds; knowingly making, using, or causing to be made or used, a false record or statement to get a false claim paid or to avoid, decrease, or conceal an obligation to pay money to the federal

government. 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 Civil False Claims Act. There are also criminal penalties for making or presenting a false or fictitious or fraudulent claim to the federal government;

- the federal Health Insurance Portability and Accountability Act of 1996, which imposes criminal and civil liability for, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program including private third-party payors, or knowingly and willfully falsifying, concealing, or covering up a material fact or making a materially false, fictitious, or fraudulent statement or representation, or making or using any false writing or document knowing the same to contain any materially false, fictitious, or fraudulent statement or entry in connection with the delivery of or payment for healthcare benefits, items, or services;
- the federal Physician Payment Sunshine Act, which requires manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program to report annually with certain exceptions to the Centers for Medicare & Medicaid Services, or CMS, information related to payments or other "transfers of value" made to physicians and teaching hospitals, and requires applicable manufacturers and group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members and payments or other "transfers of value" to such physician owners; and
- analogous state and foreign law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers; state laws that require device companies to comply with the industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state beneficiary inducement laws, and state laws that require device manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

If we or our employees are found to have violated any of the above laws we may be subjected to administrative, civil and criminal penalties, including imprisonment, exclusion from participation in federal healthcare programs, such as Medicare and Medicaid, and significant fines, monetary damages and damage to our reputation. Additional information about these laws is provided in "Business—Regulation."

We have entered into consulting agreements and royalty agreements with surgeons, including some who are customers. We also engage in co-marketing arrangements with certain surgeons who use our products. In addition, a small number of our current customer surgeons own less than 1.0% of our stock, which they either purchased in an arm's length transaction on terms identical to those offered to others, or received from us as fair market value consideration for consulting services performed. While all of these transactions were structured with the intention of complying with all applicable laws, including the federal Anti-Kickback Statute, state anti-kickback laws and other applicable laws, to the extent applicable, it is possible that regulatory agencies may view these transactions as prohibited arrangements that must be restructured, or discontinued, or for which we could be subject to significant penalties. We would be materially and adversely affected if regulatory agencies interpret our financial relationships with surgeons who order our products to be in violation of applicable laws and we were unable to comply with such laws, which could subject us to, among other things, monetary penalties for non-compliance, the cost of which could be substantial.

In certain cases, federal and state authorities pursue actions for false claims on the basis that manufacturers and distributors are promoting unapproved, or "off-label" uses of their products. Pursuant to FDA regulations, we can only market our products for cleared or approved uses. Although surgeons are permitted to use medical devices for indications other than those cleared or approved by the FDA, we are prohibited from promoting

products for “off-label” uses. We market our products and provide promotional materials and training programs to surgeons regarding the use of our products. If it is determined that our marketing, promotional materials or training programs constitute promotion of unapproved uses, we could be subject to significant fines in addition to regulatory enforcement actions, including the issuance of a warning letter, injunction, seizure, criminal penalty, and damage to our reputation.

Federal and state authorities also pursue actions for false claims based upon improper billing and coding advice or recommendations, as well as decisions related to the medical necessity of procedures, including the site-of-service where procedures are performed. Actions under the federal False Claims Act may also be brought by whistleblowers under its *qui tam* provisions. For example, a patient of one surgeon using our product brought an action alleging that the surgeon had violated the False Claims Act in connection with his claim for reimbursement for the patient’s procedure, and that we had suggested such false statements and claims to that surgeon and other surgeons across the country. We have denied all liability and the case is currently being litigated. The judge presiding over the case has limited the action the patient may pursue to claims submitted by only that surgeon for reimbursement from the Vermont Medicaid program.

To enforce compliance with the federal laws, the U.S. Department of Justice, has increased its scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Dealing with investigations can be time- and resource-consuming and can divert management’s attention from the business. Additionally, if a healthcare company settles an investigation with the Department of Justice or other law enforcement agencies, it may need to agree to additional onerous compliance and reporting requirements as part of a consent decree or corporate integrity agreement. Any such investigation or settlement could increase our costs or otherwise have an adverse effect on our business. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our financial condition and divert resources and the attention of our management from operating our business.

The scope and enforcement of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with different compliance and/or reporting requirements in multiple jurisdictions increase the possibility that we may run afoul of one or more of the requirements or that federal or state regulatory authorities might challenge our current or future activities under these laws. Additionally, we cannot predict the impact of any changes in these laws, whether or not retroactive.

We are subject to risks associated with our non-U.S. operations.

The FCPA prohibits companies and their intermediaries from making improper payments to foreign officials for the purpose of obtaining or retaining business. Other anti-corruption or anti-bribery laws, such as the United Kingdom Anti-Bribery Act, or UKBA, prohibit companies and their intermediaries from making improper payments to anyone for the purpose of obtaining or retaining business. The FCPA also imposes accounting standards and requirements on publicly traded U.S. corporations and their foreign affiliates, which are intended to prevent the diversion of corporate funds to the payment of bribes and other improper payments, and to prevent the establishment of slush funds from which such improper payments can be made. Because of the predominance of government-sponsored healthcare systems around the world, many of our customer relationships outside of the United States are with governmental entities and are therefore subject to such anti- bribery laws. Our internal control policies and procedures may not always protect us from reckless or criminal acts committed by our employees or agents. Violations of these laws, or allegations of such violations, could disrupt our operations, involve significant management distraction and result in a material adverse effect on our business, results of operations, and financial condition. We also could suffer severe penalties, including criminal and civil penalties, disgorgement and other remedial measures, including further changes or enhancements to our procedures, policies and controls, as well as potential personnel changes and disciplinary actions.

Furthermore, we are subject to anti-boycott laws, anti-money laundering laws, and the export controls and economic embargo rules and regulations of the United States, including, but not limited to, the Export Administration Regulations and trade sanctions against embargoed countries, which are administered by the Office of Foreign Assets Control within the Department of the Treasury, as well as the laws and regulations administered by the Department of Commerce. These regulations limit our ability to market, sell, distribute or otherwise transfer our products or technology to prohibited countries or persons. A determination that we have failed to comply, whether knowingly or inadvertently, may result in substantial penalties, including fines and enforcement actions and civil and/or criminal sanctions, the disgorgement of profits and the imposition of a court-appointed monitor, as well as the denial of export privileges, and may have an adverse effect on our reputation.

Even if our products are approved by regulatory authorities or CE marked, if we, our contractors, or our suppliers fail to comply with ongoing FDA or other foreign regulatory requirements, or if we experience unanticipated problems with our products, these products could be subject to restrictions or withdrawal from the market.

Any product for which we obtain regulatory clearance or approval, or a CE Certificate of Conformity, and the manufacturing processes, reporting requirements, post-approval clinical data, and promotional activities for such product, will be subject to continued regulatory review, oversight and periodic inspections by the FDA, our Notified Body and other domestic and foreign regulatory bodies. In particular, we and our suppliers are required to comply with FDA's Quality System Regulations, or QSR, and International Standards Organization, regulations for the manufacture of our products and other regulations which cover the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, storage, and shipping of any product for which we obtain regulatory clearance or approval, or a CE Certificate of Conformity.

The failure by us or one of our suppliers to comply with applicable statutes and regulations, or the failure to timely and adequately respond to any adverse inspectional observations or product safety issues, could result in, among other things, any of the following enforcement actions:

- untitled letters, warning letters, fines, injunctions, consent, and civil penalties;
- unanticipated expenditures to address or defend such actions;
- customer notifications for repair, replacement, refunds;
- recall, detention, or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying our requests for 510(k) clearance or premarket approval and conformity assessments of new products or modified products;
- limitations on the intended uses for which the product may be marketed;
- operating restrictions;
- withdrawing 510(k) clearances or PMA approvals that have already been granted;
- suspension or withdrawal of CE Certificates of Conformity;
- refusal to grant export approval for our products; or
- criminal prosecution.

In addition, we may be required to conduct costly post-market testing and surveillance to monitor the safety or effectiveness of our products, and we must comply with medical device reporting requirements, including the reporting of adverse events and malfunctions related to our products. Later discovery of previously unknown problems with our products, including unanticipated adverse events or adverse events of unanticipated severity or

frequency, manufacturing problems, or failure to comply with regulatory requirements such as QSR, may result in changes to labeling, restrictions on such products or manufacturing processes, withdrawal of the products from the market, voluntary or mandatory recalls, a requirement to repair, replace, or refund the cost of any medical device we manufacture or distribute, fines, suspension, variation, or withdrawal of regulatory approvals or CE Certificates of Conformity, product seizures, injunctions, or the imposition of civil, administrative, or criminal penalties which would adversely affect our business, operating results, and prospects.

If the FDA determines that our promotional materials, labeling, training or other marketing or educational activities constitute promotion of an unapproved use, it could request that we cease or modify our training or promotional materials or subject us to regulatory enforcement actions. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our training or other promotional materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false or fraudulent claims for payment of government funds.

If any of these actions were to occur it would harm our reputation and cause our product sales and profitability to suffer and may prevent us from generating revenue. Furthermore, our key component suppliers may not currently be or may not continue to be in compliance with all applicable regulatory requirements, which could result in our failure to produce our products on a timely basis and in the required quantities, if at all.

The FDA inspected our facilities in May 2014. As a result, we received a Notice of Inspectional Observations, or Form 483, with three observations that have since been addressed with a corrective and preventative action, or CAPA, plan. We responded to the Agency in writing and the matter was closed as of October 2014 through the issuance of an Establishment Inspection Report. To date, the FDA has not taken any further action with respect to the May 2014 inspection or its findings. The FDA inspected our facilities again in December 2016 and no findings were noted.

Our employees, independent contractors, consultants, manufacturers, and third-party distributors may engage in misconduct or other improper activities, relating to regulatory standards and requirements.

We are exposed to the risk that our employees, independent contractors, consultants, manufacturers, and third-party distributors may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violates FDA regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA, manufacturing standards, federal and state healthcare laws and regulations, and laws that require the true, complete and accurate reporting of financial information or data. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Misconduct by these parties could also involve the improper use of individually identifiable information, including, without limitation, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have a Compliance program, Code of Conduct and associated policies and procedures, but it is not always possible to identify and deter misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative penalties, including, without limitation, damages, fines, disgorgement of profits, imprisonment, exclusion from participation in government healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations.

We may be subject to enforcement action, including fines, penalties or injunctions, if we are determined to be engaging in the off-label promotion of our products.

Our promotional materials and training methods must comply with FDA and other applicable laws and regulations, including the prohibition of the promotion of off-label use. Physicians may use our products off- label, as the FDA does not restrict or regulate a physician's choice of treatment within the practice of medicine. In the United States, the full indication for the iFuse Implant System is: "The iFuse Implant System is intended for sacroiliac joint fusion for conditions including sacroiliac joint dysfunction that is a direct result of sacroiliac joint disruption and degenerative sacroiliitis. This includes conditions whose symptoms began during pregnancy or in the peripartum period and have persisted postpartum for more than six months. Clinical studies have demonstrated that treatment with the iFuse Implant System improved pain, patient function, and quality of life at 12-months post-implantation." We believe that the specific surgical procedures for which our products are marketed fall within the scope of the surgical applications that have been cleared by the FDA. However, if the FDA determines that our promotional materials or training constitutes promotion of an off-label use, it could request that we modify our training or promotional materials, require us to stop promoting our products for those specific procedures until we obtain FDA clearance or approval for them, or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, injunction, seizure, civil fines, and criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our promotional or training materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false or fraudulent claims for payment of government fund. In that event, our reputation could be damaged and adoption of the products would be impaired. Although our policy is to refrain from statements that could be considered off-label promotion of our products, the FDA or another regulatory agency could disagree and conclude that we have engaged in off-label promotion. In addition, the off-label use of our products may increase the risk of injury to patients, and, in turn, the risk of product liability claims. Product liability claims are expensive to defend and could divert our management's attention, result in substantial damage awards against us and harm our reputation.

A recall of our products, either voluntarily or at the direction of the FDA or another governmental authority, including foreign governmental authorities, or the discovery of serious safety issues or malfunctions with our products, can result in voluntary corrective actions or agency enforcement actions, which could have a significant adverse impact on us.

The FDA and similar foreign governmental authorities have the authority to require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture or in the event that a product poses an unacceptable risk to health. Manufacturers may, under their own initiative, recall a product if any material deficiency in a device is found.

In the case of the FDA, the authority to require a recall must be based on an FDA finding that there is an unreasonable risk of substantial public harm. In addition, foreign governmental bodies have the authority to require the recall of our products in the event of material deficiencies or defects in design or manufacture. A government-mandated or voluntary recall by us or one of our third-party distributors could occur as a result of an unacceptable risk to health, component failures, manufacturing errors, design or labeling defects, or other deficiencies and issues. Recalls of any of our products would divert managerial and financial resources and have an adverse effect on our reputation, results of operations, and financial condition, which could impair our ability to produce our products in a cost-effective and timely manner in order to meet our customers' demands. We may also be required to bear other costs or take other actions that may have a negative impact on our future sales and our ability to generate profits.

The FDA requires that certain classifications of recalls be reported to FDA within 10 working days after the recall is initiated. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA. We may initiate voluntary recalls involving our products in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, they could require us to report those

actions as recalls. A future recall announcement could harm our reputation with customers and negatively affect our sales. In addition, the FDA could take enforcement action for failing to report the recalls when they were conducted.

Further, under the FDA's medical device reporting, regulations, we are required to report to the FDA any information that our product may have caused or contributed to a death or serious injury or in which our product malfunctioned and, if the malfunction were to recur, would likely cause or contribute to death or serious injury. If we fail to report these events to the FDA within the required timeframes, or at all, FDA could take enforcement action against us. Any such adverse event involving our products or repeated product malfunctions may result in a voluntary or involuntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection or enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit could divert managerial and financial resources, impair our ability to manufacture our products in a cost-effective and timely manner, and have an adverse effect on our reputation, results of operations, and financial condition.

In the EEA, we must comply with the EU Medical Device Vigilance System. Under this system, incidents must be reported to the relevant authorities of the Member States of the EEA, and manufacturers are required to take Field Safety Corrective Actions, or FSCAs, to reduce a risk of death or serious deterioration in the state of health associated with the use of a medical device that is already placed on the market. An incident is defined as any malfunction or deterioration in the characteristics and/or performance of a device, as well as any inadequacy in the labeling or the instructions for use which, directly or indirectly, might lead to or might have led to the death of a patient or user or of other persons or to a serious deterioration in their state of health. An FSCA may include the recall, modification, exchange, destruction or retrofitting of the device FSCAs must be communicated by the manufacturer or its legal representative to its customers and/or to the end users of the device through Field Safety Notices.

Any adverse event involving our products, whether in the United States or abroad, could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection, mandatory recall or other enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business, and may harm our reputation and financial results.

Modifications to our products may require new 510(k) clearances or premarket approvals and new conformity assessment by our Notified Body, or may require us to cease marketing or recall the modified products until clearances, approvals, or CE Certificates of Conformity are obtained.

Any modification to a 510(k)-cleared device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, design, or manufacture, requires a new 510(k) clearance or, possibly, a PMA. The FDA requires every manufacturer make and document this determination in the first instance. A manufacturer may determine that a modification could not significantly affect safety or effectiveness and does not represent a major change in its intended use, so that no new 510(k) clearance is necessary. FDA may review any manufacturer's decision and may not agree with our decisions regarding whether new clearances or approvals are necessary. The FDA may also on its own initiative determine that a new clearance or approval is required. We have made modifications to our products in the past and may make additional modifications in the future that we believe do not or will not require additional clearances or approvals. If the FDA disagrees and requires new clearances or approvals for the modifications, we may be required to recall and to stop marketing our products as modified until clearance or approvals can be obtained, which could require us to redesign our products and harm our operating results. In these circumstances, we may be subject to significant enforcement actions.

We have modified some of our 510(k) cleared products, and have determined based on our review of the applicable FDA guidance that in certain instances new 510(k) clearances or PMAs are not required. If the FDA

disagrees with our determination and requires us to submit new 510(k) clearances or PMAs for modifications to our previously cleared products for which we have concluded that new clearances or approvals are unnecessary, we may be required to cease marketing or to recall the modified product until we obtain clearance or approval, and we may be subject to significant enforcement action, regulatory fines, or penalties.

If a manufacturer determines that a modification to an FDA-cleared device could significantly affect its safety or effectiveness, or would constitute a major change in its intended use, then the manufacturer must file for a new 510(k) clearance or possibly a premarket approval application. Where we determine that modifications to our products require a new 510(k) clearance or premarket approval application, we may not be able to obtain those additional clearances or approvals for the modifications or additional indications in a timely manner, or at all. FDA's ongoing review of the 510(k) program may make it more difficult for us to make modifications to our previously cleared products, either by imposing more strict requirements on when a new 510(k) for a modification to a previously cleared product must be submitted, or applying more onerous review criteria to such submissions.

In the EEA, we must inform the Notified Body that carried out the conformity assessment of the medical devices we market or sell in the EEA of any planned substantial changes to our quality system or changes to our devices which could affect compliance with the essential requirements or the devices' intended use. The Notified Body will then assess the changes and verify whether they affect the products' conformity. There can be no assurances that the assessment will be favorable and that the Notified Body will attest our compliance with the essential requirements, which will prevent us from selling our products in the EEA.

Obtaining regulatory clearances or approvals and CE Certificates of Conformity can be a time consuming process, and delays in obtaining required future regulatory clearances or approvals, and CE Certificates of Conformity would adversely affect our ability to introduce new or enhanced products in a timely manner, which in turn would harm our future growth.

There is no guarantee that the FDA will grant 510(k) clearance or premarket approval of our future products or that our Notified Body will issue the required CE Certificate of Conformity, and failure to obtain necessary clearances or approvals for our future products would adversely affect our ability to grow our business.

We are in the process of developing our regulatory strategies for obtaining clearance or approval for future products. Some of them may require 510(k) clearance by the FDA or a new CE Certificate of Conformity. Other future products may require premarket approval. In addition some of our new products may require clinical trials to support regulatory approval and we may not successfully complete these clinical trials. The FDA may not approve or clear these products or our Notified Body may not issue CE Certificate of Conformity for the indications that are necessary or desirable for successful commercialization. Indeed, the FDA may refuse our requests for 510(k) clearance or premarket approval of new products, new intended uses, or modifications to existing products. Failure to receive clearance or approval for our new products would have an adverse effect on our ability to expand our business.

We may fail to obtain or maintain foreign regulatory approvals to market our products in other countries.

We currently market our products internationally and intend to expand our international marketing. International jurisdictions require separate regulatory approvals and compliance with numerous and varying regulatory requirements. For example, we intend to continue to seek domestic and international regulatory clearance to market our primary products Asia, Latin America, and the Middle East and other key markets. The approval procedures vary among countries and may involve requirements for substantial additional testing, and the time required to obtain approval may differ from country to country and from that required to obtain FDA clearance or approval or to obtain CE Certificates of Conformity.

Clearance or approval by the FDA or obtaining a CE Certificate of Conformity does not ensure approval or certification by regulatory authorities in other countries or jurisdictions, and approval or certification by one foreign regulatory authority does not ensure approval or certification by regulatory authorities in other foreign countries or by the FDA, and the CE marking of our products in the EEA. The foreign regulatory approval or certification process may include all of the risks associated with obtaining FDA clearance or approval, or a CE Certificate of Conformity for a medical device in the EEA in addition to other risks. In addition, the time required to obtain foreign approval may differ from that required to obtain FDA clearance or approval, or a CE Certificate of Conformity in the EEA and we may not obtain foreign regulatory approvals on a timely basis, if at all. We may not be able to file for regulatory approvals or certifications and may not receive necessary approvals to commercialize our products in any market. If we fail to receive necessary approvals or certifications to commercialize our products in foreign jurisdictions on a timely basis, or at all, our business, results of operations, and financial condition could be adversely affected.

Clinical trials necessary to support a 510(k) or PMA application or a conformity assessment procedure will be expensive and may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Delays or failures in our clinical trials will prevent us from commercializing any modified or new products and will adversely affect our business, operating results and prospects.

Initiating and completing clinical trials necessary to support a PMA application for our future products and additional safety and effectiveness data beyond that typically required for a 510(k) clearance for iFuse, as well as other possible future product candidates, and to support a conformity assessment procedure would be time consuming and expensive and the outcome uncertain. Moreover, the results of early clinical trials are not necessarily predictive of future results, and any product we advance into clinical trials may not have favorable results in later clinical trials.

Conducting successful clinical studies may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Patient enrollment in clinical trials and completion of patient participation and follow-up depends on many factors, including the size of the patient population, the nature of the trial protocol, the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects, the availability of appropriate clinical trial investigators, support staff, and proximity of patients to clinical sites and able to comply with the inclusion and exclusion criteria for participation in the clinical trial and patient compliance. Development of sufficient and appropriate clinical protocols to demonstrate safety and effectiveness are required and we may not adequately develop such protocols to support clearance and approval. Further, the FDA or our Notified Body may require us to submit data on a greater number of patients than we originally anticipated and/or for a longer follow-up period or change the data collection requirements or data analysis applicable to our clinical trials. Delays in patient enrollment or failure of patients to continue to participate in a clinical trial may cause an increase in costs and delays in the approval and attempted commercialization of our products or result in the failure of the clinical trial. In addition, despite considerable time and expense invested in our clinical trials, the FDA or our Notified Body may not consider our data adequate to demonstrate safety and effectiveness. Such increased costs and delays or failures could adversely affect our business, operating results and prospects.

Our facility and our clinical investigational sites operate under procedures that govern the conduct and management of FDA-regulated clinical studies under 21 CFR Parts 50 and 812, and Good Clinical Practices. The FDA may conduct Bioresearch Monitoring inspections of us and/or our clinical sites to assess compliance with 21 CFR Parts 50 and 812, our procedures, and the clinical protocol. If the FDA were to find that we or our clinical investigators are not operating in compliance with applicable regulations, we could be subject to the above FDA enforcement action, as well as refusal to accept all or part of our data in support of our 510(k) or PMA, or we may need to conduct additional studies.

The results of our clinical trials may not support our product candidate claims or may result in the discovery of adverse side effects.

Even if our clinical trials are completed as planned, we cannot be certain that their results will support our product candidate claims or that the FDA, foreign authorities, or our Notified Body will agree with our conclusions regarding them. Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our product candidates are safe and effective for the proposed indicated uses, which could cause us to abandon a product candidate and may delay development of others. Any delay or termination of our clinical trials will delay the filing of our product submissions and, ultimately, our ability to commercialize our product candidates and generate revenue. It is also possible that patients enrolled in clinical trials will experience adverse side effects that are not currently part of the product candidate's profile.

U.S. legislative or FDA or foreign regulatory reforms may make it more difficult and costly for us to obtain regulatory clearances or approvals, or CE Certificates of Conformity for our product candidates and to manufacture, market, and distribute our products after approval is obtained.

From time to time, Congress introduces legislation that could significantly change the statutory provisions governing the regulatory approval, manufacture, and marketing of regulated products or the reimbursement thereof. 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 future products. In addition, FDA regulations and guidance are often revised or reinterpreted by the agency in ways that may significantly affect our business and our products. It is impossible to predict whether legislative changes will be enacted or FDA regulations, guidance, or interpretations changed, and what the impact of such changes, if any, may be.

For example, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our products. For example, in 2011, the FDA initiated a review of the premarket clearance process in response to internal and external concerns regarding the 510(k) program, announcing 25 action items designed to make the process more rigorous and transparent. In addition, as part of the Food and Drug Administration Safety and Innovation Act of 2012, Congress enacted several reforms entitled the Medical Device Regulatory Improvements and additional miscellaneous provisions that will further affect medical device regulation both pre- and post-approval. In December 2016, the 21st Century Cures Act was enacted, with a number of provisions impacting medical device regulation. The FDA has implemented, and continues to implement, these reforms, which could impose additional regulatory requirements upon us and delay our ability to obtain new 510(k) clearances, increase the costs of compliance or restrict our ability to maintain our current clearances. Any change in the laws or regulations that govern the clearance and approval processes relating to our current and future products could make it more difficult and costly to obtain clearance or approval for new products, or to produce, market, and distribute existing products. Significant delays in receiving clearance or approval, or the failure to receive clearance or approval for our new products would have an adverse effect on our ability to expand our business.

Another example can be found in the EEA. On September 26, 2012, the European Commission adopted a package of legislative proposals designed to replace the existing regulatory framework for medical devices in the EEA. These proposals are intended to strengthen the medical devices rules in the EEA. On October 22, 2013, the European Parliament voted in favor of an amended draft of the regulations. On June 19, 2015, the Council proposed another amended text. Trialogue discussions between the European Commission, the Parliament and the Council are expected to begin in Autumn 2015. Final adoption of the regulations is anticipated in early 2016.

The sales of our products depend in part on the availability of coverage and reimbursement from third-party payors such as government health administration authorities, private health insurers, health maintenance

organizations and other healthcare-related organizations. Recent political, economic and regulatory influences are subjecting the healthcare industry to fundamental changes that can impact coverage and reimbursement from third-party payors. For example, Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2011, among other things, reduced and/or limited Medicare reimbursement to certain providers. Legislative changes to the Patient Protection and Affordable Care Act remain possible and appear likely in the 115th United States Congress and under the Trump Administration. We expect that the Patient Protection and Affordable Care Act, as currently enacted or as it may be amended in the future, and other healthcare reform measures that may be adopted in the future, could have a material adverse effect on our industry generally and on our ability to maintain or increase sales of our existing products. Other federal laws established sequestration (i.e., automatic spending reductions), which further reduces Medicare's payments to providers by two percent through 2024. These reductions reduce reimbursement for our products, which could potentially negatively impact our revenue, and may reduce providers' revenues or profits, which could affect their ability to purchase new technologies. Both the federal and state governments in the United States and foreign governments continue to propose and pass new legislation and regulations designed to contain or reduce the cost of healthcare. Such legislation and regulations may result in decreased reimbursement for medical devices, which may further exacerbate industry-wide pressure to reduce the prices charged for medical devices. This could harm our ability to market our products and generate sales.

Our financial performance may be adversely affected by medical device tax provisions in the healthcare reform laws.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2011, imposes, among other things, an annual excise tax on any entity that manufactures or imports medical devices offered for sale in the United States. Under these provisions, the Congressional Research Service predicts that the total cost to the medical device industry may be up to $20.0 billion over the next decade. A two-year moratorium currently applies to this tax through December 2017. After that time, the tax may be repealed or modified, or the moratorium may be lifted, in which case sales of our iFuse would be subject to this excise tax.

We may incur product liability losses, and insurance coverage may be inadequate or unavailable to cover these losses.

Our business exposes us to potential product liability claims that are inherent in the testing, design, manufacture and sale of medical devices for sacroiliac joint surgery procedures. Sacroiliac joint surgery involves significant risk of serious complications, including bleeding, nerve injury, paralysis and even death. In addition, if longer-term patient results and experience indicates that our products or any component of a product cause tissue damage, motor impairment or other adverse effects, we could be subject to significant liability. Surgeons may misuse or ineffectively use our products, which may result in unsatisfactory patient outcomes or patient injury. We could become the subject of product liability lawsuits alleging that component failures, manufacturing flaws, design defects or inadequate disclosure of product-related risks or product-related information resulted in an unsafe condition or injury to patients. Product liability lawsuits and claims, safety alerts, or product recalls, regardless of their ultimate outcome, could have a material adverse effect on our business and reputation, our ability to attract and retain customers and our results of operations or financial condition. We are aware of two patient deaths taking place following an iFuse Procedure and a medical device report was filed for each case with the FDA. The first patient death occurred in 2012 when a patient suffered a ruptured inferior vena cava approximately one week after a procedure. The timing and the location of the rupture did not suggest that the injury resulted from the procedure. We learned of a second death that occurred in 2013 approximately six hours after the procedure. According to a report on the case, an autopsy revealed a perforated iliac artery close to the implant, possibly caused by a drill wire guide, but the exact source of the bleeding could not be identified. Furthermore, the patient's blood was found to contain toxic levels of an unprescribed pain killer (tramadol), which was found to be co-responsible for the death. To date, neither of these deaths has resulted in a claim or investigation that our iFuse Implant malfunctioned or had a defect.

Although we maintain third-party product liability insurance coverage, it is possible that claims against us may exceed the coverage limits of our insurance policies or cause us to record a self-insured loss. Even if any product liability loss is covered by an insurance policy, these policies typically have substantial retentions or deductibles that we are responsible for. Product liability claims in excess of applicable insurance coverage could have a material adverse effect on our business, results of operations, and financial condition.

In addition, any product liability claim brought against us, with or without merit, could result in an increase of our product liability insurance rates. Insurance coverage varies in cost and can be difficult to obtain, and we cannot guarantee that we will be able to obtain insurance coverage in the future on terms acceptable to us or at all.

We are subject to environmental laws and regulations that can impose significant costs and expose us to potential financial liabilities.

The manufacture of certain of our products, including our implants and products, and the handling of materials used in the product testing process, including in our cadaveric laboratory, involve the use of biological, hazardous and/or radioactive materials and wastes. Our business and facilities and those of our suppliers are subject to foreign, federal, state, and local laws and regulations relating to the protection of human health and the environment, including those governing the use, manufacture, storage, handling, and disposal of, and exposure to, such materials and wastes. In addition, under some environmental laws and regulations, we could be held responsible for costs relating to any contamination at our past or present facilities and at third-party waste disposal sites even if such contamination was not caused by us. A failure to comply with current or future environmental laws and regulations could result in severe fines or penalties. Any such expenses or liability could have a significant negative impact on our business, results of operations, and financial condition.

Risks Related to Our Intellectual Property and Potential Litigation

Our ability to protect our intellectual property and proprietary technology is uncertain.

We rely primarily on patent, copyright, trademark and trade secret laws, as well as confidentiality and non- disclosure agreements and other methods, to protect our proprietary technologies and know-how. As of March 1, 2017, we owned 22 issued U.S. patents and had 16 pending U.S. patent applications, and we owned five issued foreign patents and had 13 pending foreign patent applications. As of December 31, 2016, we also had four pending U.S. trademark applications and 20 pending foreign trademark applications, as well as 90 trademark registrations, including 14 U.S. trademark registrations and 74 foreign trademark registrations.

We have applied for patent protection relating to certain existing and proposed products and processes. While we generally apply for patents in those countries where we intend to make, have made, use, or sell patented products, we may not accurately predict all of the countries where patent protection will ultimately be desirable. If we fail to timely file a patent application in any such country, we may be precluded from doing so at a later date. Furthermore, we cannot assure you that any of our patent applications will be approved. The rights granted to us under our patents, including prospective rights sought in our pending patent applications, may not be meaningful or provide us with any commercial advantage. In addition, those rights could be opposed, contested, or circumvented by our competitors or be declared invalid or unenforceable in judicial or administrative proceedings. The failure of our patents to adequately protect our technology might make it easier for our competitors to offer the same or similar products or technologies. Competitors may be able to design around our patents or develop products that provide outcomes which are comparable to ours without infringing on our intellectual property rights. Due to differences between foreign and U.S. patent laws, our patented intellectual property rights may not receive the same degree of protection in foreign countries as they would in the United States. Even if patents are granted outside the United States, effective enforcement in those countries may not be available. Since most of our issued patents are for the United States only, we lack a corresponding

scope of patent protection in other countries. In countries where we do not have significant patent protection, we may not be able to stop a competitor from marketing products in such countries that are the same as or similar to our products.

We rely on our trademarks, trade names and brand names to distinguish our products from the products of our competitors, and have registered or applied to register many of these trademarks. We cannot assure you that our trademark applications will be approved. Third parties may also oppose our trademark applications, or otherwise challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our products, which could result in loss of brand recognition, and could require us to devote resources to advertising and marketing new brands. Further, we cannot assure you that competitors will not infringe upon our trademarks, or that we will have adequate resources to enforce our trademarks.

We also rely on trade secrets, know-how and technology, which are not protected by patents, to maintain our competitive position. We try to protect this information by entering into confidentiality and intellectual property assignment agreements with parties that develop intellectual property for us and/or have access to it, such as our officers, employees, consultants and advisors. However, in the event of unauthorized use or disclosure or other breaches of such agreements, we may not be provided with meaningful protection for our trade secrets or other proprietary information. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our commercial partners, collaborators, employees and consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions. If any of our trade secrets, know-how or other technologies not protected by a patent were to be disclosed to or independently developed by a competitor, our business, financial condition, and results of operations could be materially adversely affected.

In the future, we may enter into licensing agreements to maintain our competitive position. If we enter into in-bound intellectual property license agreements, we may not be able to fully protect the licensed intellectual property rights or maintain those licenses. Future licensors could retain the right to prosecute and defend the intellectual property rights licensed to us, in which case we would depend on the ability of our licensors to obtain, maintain and enforce intellectual property protection for the licensed intellectual property. These licensors may determine not to pursue litigation against other companies or may pursue such litigation less aggressively than we would. Further, entering into such license agreements could impose various diligence, commercialization, royalty, or other obligations on us. Future licensors may allege that we have breached our license agreement with them, and accordingly seek damages or to terminate our license, which could adversely affect our competitive business position and harm our business prospects.

If a competitor infringes upon one of our patents, trademarks, or other intellectual property rights, enforcing those patents, trademarks and other rights may be difficult and time consuming. Even if successful, litigation to defend our patents and trademarks against challenges or to enforce our intellectual property rights could be expensive and time consuming and could divert management’s attention from managing our business. Moreover, we may not have sufficient resources to defend our patents or trademarks against challenges or to enforce our intellectual property rights. In addition, if third parties infringe any intellectual property that is not material to the products that we make, have made, use or sell, it may be impractical for us to enforce this intellectual property against those third parties.

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

Many of our employees were previously employed at other medical device companies, including our competitors or potential competitors, in some cases until recently. Some of our third-party distributors sell, or in the past have sold, products of our competitors. We may be subject to claims that we, our employees, or our third-party distributors have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of these former employers or competitors. In addition, we have been and may in the future be subject

to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. Even if we are successful in defending against these claims, litigation could result in substantial costs, divert the attention of management from our core business and harm our reputation. If our defense to those claims fails, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. There can be no assurance that this type of litigation will not continue, and any future litigation or the threat thereof may adversely affect our ability to hire additional direct sales representatives. A loss of key personnel or their work product could hamper or prevent our ability to commercialize product candidates, which could have an adverse effect on our business, results of operations, and financial condition.

The medical device industry is characterized by patent litigation and we could become subject to litigation that could be costly, result in the diversion of management's time and efforts, require us to pay damages, and/or prevent us from developing or marketing our existing or future products.

Our commercial success will depend in part on not infringing the patents or violating the other proprietary rights of third parties. Significant litigation regarding patent rights exists in our industry. Our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in competing technologies, may have applied for or obtained or may in the future apply for and obtain, patents that will prevent, limit or otherwise interfere with our ability to make and sell our products. We have conducted a limited review of patents issued to third parties. The large number of patents, the rapid rate of new patent issuances, the complexities of the technology involved, and the uncertainty of litigation increase the risk of business assets and management's attention being diverted to patent litigation. Any litigation or claim against us, even those without merit, may cause us to incur substantial costs, and could place a significant strain on our financial resources, divert the attention of management from our core business, and harm our reputation. Further, as the number of participants in the medical device industry grows, the possibility of intellectual property infringement claims against us increases. If we are found to infringe the intellectual property rights of third parties, we could be required to pay substantial damages, including treble, or triple, damages if an infringement is found to be willful, and/or royalties and could be prevented from selling our products unless we obtain a license or are able to redesign our products to avoid infringement. Any such license may not be available on reasonable terms, if at all, and there can be no assurance that we would be able to redesign our products in a way that would not infringe the intellectual property rights of others. If we fail to obtain any required licenses or make any necessary changes to our products or technologies, we may have to withdraw existing products from the market or may be unable to commercialize one or more of our products, all of which could have a material adverse effect on our business, results of operations, and financial condition. If passed into law, patent reform legislation currently pending in the U.S. Congress could significantly change the risks associated with bringing or defending a patent infringement lawsuit. For example, fee shifting legislation could require a non-prevailing party to pay the attorney fees of the prevailing party in some circumstances.

In addition, we generally indemnify our customers and third-party distributors with respect to infringement by our products of the proprietary rights of third parties. Third parties may assert infringement claims against our customers or third-party distributors. These claims may require us to initiate or defend protracted and costly litigation on behalf of our customers or third-party distributors, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers or third-party distributors or may be required to obtain licenses to intellectual property owned by such third parties. If we cannot obtain all necessary licenses on commercially reasonable terms, our customers and third-party distributors may be forced to stop using or selling our products.

Risks Related to this Offering and Ownership of Our Common Stock

The price of our common stock may be volatile and the value of your investment could decline.

Prior to this offering, there has been no public market for our common stock, and medical device stocks have historically experienced volatility. The trading price of our common stock following this offering may

fluctuate substantially. Following the closing of this offering, the market price of our common stock may be higher or lower than the price you pay in the offering, depending on many factors, some of which are beyond our control and may not be related to our operating performance. These fluctuations could cause you to lose all or part of your investment in our common stock. Factors that could cause fluctuations in the trading price of our common stock include the following:

- our ability to drive increased sales of our product;
- our ability to establish and maintain an effective and dedicated sales force;
- pricing pressure applicable to our products, including adverse third-party coverage and reimbursement outcomes;
- the ability of our suppliers to timely provide us with an adequate supply of materials and components;
- results of our clinical trials and that of our competitors' products;
- regulatory actions with respect to our products or our competitor's products;
- announcements of new offerings, products, services or technologies, commercial relationships, acquisitions, or other events by us or our competitors;
- price and volume fluctuations in the overall stock market from time to time;
- significant volatility in the market price and trading volume of healthcare companies, in general, and of companies in the medical device industry in particular;
- fluctuations in the trading volume of our shares or the size of our public float;
- negative publicity;
- actual or anticipated changes or fluctuations in our results of operations;
- whether our results of operations meet the expectations of securities analysts or investors or those expectations change;
- litigation involving us, our industry, or both;
- regulatory developments in the United States, foreign countries, or both;
- general economic conditions and trends;
- major catastrophic events;
- lock-up releases and sales of large blocks of our common stock;
- additions or departures of key employees or scientific personnel;
- factors that may affect the sale of our products, including seasonality and budgets of our customers;
- the costs of maintaining adequate insurance coverage, including product liability insurance; or
- an adverse impact on the company from any of the other risks cited in this prospectus.

In addition, if the market for healthcare stocks or the stock market, in general, experience a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, results of operations, or financial condition. The trading price of our common stock might also decline in reaction to events that affect other companies in our industry even if these events do not directly affect us. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. If our stock price is volatile, we may become the target of securities litigation. Securities litigation could result in substantial costs and divert our management's attention and resources from our business. This could have a material adverse effect on our business, results of operations, and financial condition.

Sales of substantial amounts of our common stock in the public markets, including when the "lock-up" or "market standoff" period ends, or the perception that sales might occur, could reduce the price of our common stock and may dilute your voting power and your ownership interest in us.

Sales of a substantial number of shares of our common stock in the public market after this offering, or the perception that these sales could occur, could adversely affect the market price of our common stock, and may make it more difficult for you to sell your common stock at a time and price that you deem appropriate. Based on the total number of outstanding shares of our common stock as of , upon the closing of this offering, we will have shares of common stock outstanding. All of the shares of common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act of 1933, as amended, or the Securities Act, except for any shares held by our "affiliates" as defined in Rule 144 under the Securities Act.

Subject to certain exceptions, we, our directors and officers and the holders of substantially all of our capital stock, warrants and stock options have agreed not to offer, sell or agree to sell, directly or indirectly, any shares of common stock without the permission of Morgan Stanley & Co. LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated for a period of 180 days from the date of this prospectus. When the lock-up period expires, our security holders will be able to sell shares in the public market subject to any restrictions under the securities laws. In addition, Morgan Stanley and Merrill Lynch may, in their discretion, release all or some portion of the shares subject to lock-up agreements prior to the expiration of the lock-up period. See the section titled "Shares Eligible for Future Sale" for more information. Sales of a substantial number of such shares upon expiration, or the perception that such sales may occur, or early release of the lock-up, could cause our share price to fall, or make it more difficult for you to sell your common stock at a time and price that you deem appropriate.

Based on shares outstanding as of , 2017, the holders of up to shares, or approximately %, of our common stock after this offering, will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register the offer and sale of all shares of common stock that we may issue under our equity compensation plans.

We may issue our shares of common stock or securities convertible into our common stock from time to time in connection with a financing, acquisition, investments or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and cause the trading price of our common stock to decline.

Insiders will continue to have substantial control over us after this offering, which could limit your ability to influence the outcome of key transactions, including a change of control.

Our directors, executive officers, and each of our stockholders that own greater than 5% of our outstanding common stock, in the aggregate, will beneficially own approximately % of the outstanding shares of our common stock after this offering, based on the number of shares outstanding as of December 31, 2016. As a result, these stockholders will be able to influence or control matters requiring approval by our stockholders, including the election of directors and the approval of mergers, acquisitions or other extraordinary transactions. They may also have interests that differ from yours and may vote in a manner that is adverse to your interests. This concentration of ownership may have the effect of deterring, delaying, or preventing a change of control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock.

There is no existing market for our common stock, and we cannot assure you that a market will develop for our common stock or what the market price of our common stock will be.

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. If an active trading market does not develop, you may have difficulty selling any shares of our common stock that you purchase, and the value of such shares might be materially impaired.

In addition, we cannot predict the prices at which our common stock will trade. The initial public offering price for our common stock will be determined by negotiations between us and the representatives of the underwriters and may not be indicative of prices that will prevail in the open market following this offering. Consequently, you may not be able to sell shares of our common stock at prices equal to or greater than the price you paid in this offering.

We have broad discretion in the use of net proceeds that we receive in this offering, and if we do not use those proceeds effectively, your investment could be harmed.

The principal purposes of this offering are to create a public market for our common stock, obtain additional working capital and facilitate our future access to the public equity markets. We intend to use the net proceeds from this offering for general corporate purposes, including working capital, sales and marketing activities, research initiatives including enhancement of our solution, investment in technology and development and capital expenditures. We also may use a portion of the net proceeds from this offering to acquire or invest in technologies, solutions or businesses that complement our business, although we have no present commitments, and we have not allocated specific amounts of net proceeds, to complete any such transactions or plans. Accordingly, our management will have broad discretion in the application of the net proceeds to us from this offering. Investors in this offering will need to rely upon the judgment of our management regarding the application of the proceeds. If we do not use the net proceeds that we receive in this offering effectively, our business, results of operations, and financial condition could be harmed.

We may be unable to utilize our federal net operating loss carryforwards to reduce our income taxes.

As of December 31, 2016, we had net operating loss, or NOL, carryforwards of approximately $105.0 million and $83.7 million available to reduce future taxable income, if any, for U.S. federal income tax and state income tax purposes, respectively. If not utilized, our federal and state NOL carryforwards begin to expire in 2029 and 2017, respectively. These NOL carryforwards could expire unused and be unavailable to offset future income tax liabilities. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, if a corporation undergoes an “ownership change,” which generally occurs if the percentage of the corporation’s stock owned by 5% stockholders increases by more than 50% over a three-year period, the corporation’s ability to use its pre-change NOL carryforwards and other pre-change tax attributes to offset its post-change income may be limited. We have determined that we have experienced Section 382 ownership changes in the past and $1.4 million of our NOL and tax credit carryforwards are subject to limitation. In addition, we may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, including this offering, some of which may be outside of our control. If an ownership change occurs and our ability to use our historical NOL and tax credit carryforwards is materially limited, it would harm our future operating results by effectively increasing our future tax obligations.

The requirements of being a public company may strain our resources, divert our management’s attention, and affect our ability to attract and retain qualified board members.

As a public company, we will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and will be required to comply with the applicable requirements of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the listing requirements of the Nasdaq Global Market and other applicable securities rules and regulations. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming, or costly and increase demand on our systems and resources. Among other things, the Exchange Act requires that we file annual, quarterly, and current reports with respect to our business and results of operations and maintain effective disclosure controls and procedures and internal controls over financial reporting. In order to maintain and, if required, improve our disclosure controls and procedures and internal controls over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management’s attention may be diverted from

other business concerns, which could harm our business and results of operations. Although we have already hired additional employees to comply with these requirements, we may need to hire even more employees in the future, which will increase our costs and expenses.

We also expect that being a public company and these new rules and regulations will make it 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 members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

Failure to establish and maintain an effective system of internal controls could result in material misstatements of our financial statements or cause us to fail to meet our reporting obligations or fail to prevent fraud in which case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

After the closing of this offering, we will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act and the rules and regulations of Nasdaq Global Market. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal controls over financial reporting. Commencing with our year ending December 31, 2018, we must perform system and process evaluation and testing of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting in our Annual Report on Form 10-K for that year, as required by Section 404 of the Sarbanes-Oxley Act, or Section 404. This will require that we incur substantial additional professional fees and internal costs to expand our accounting and finance functions and that we expend significant management efforts. Prior to this offering, we have never been required to test our internal controls within a specified period, and we are not currently in compliance with, and we cannot be certain when we will be able to implement the requirements of Section 404. As a result, we may experience difficulty in producing accurate financial statements in a timely manner.

We may discover weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. In addition, our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing, and possible remediation. If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls, we may not be able to produce timely and accurate financial statements. In addition, in connection with the future attestation process by our independent registered public accounting firm, we may encounter problems or delays in completing the implementation of any requested improvements and receiving a favorable attestation. If we cannot favorably assess the effectiveness of our internal control over financial reporting, or if our independent registered public accounting firm is unable to provide an unqualified attestation report on our internal controls, our stockholders could lose confidence in our reporting, and the market price of our stock could decline. In addition, we could be subject to sanctions or investigations by the Nasdaq Global Market, the Securities and Exchange Commission, or SEC, or other regulatory authorities.

We are an "emerging growth company," and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company" as defined in the JOBS Act and we intend to take advantage of some of the exemptions from reporting requirements that are applicable to other public companies that are not emerging growth companies, including:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and only two years of selected financial data;
- an exception from compliance with the auditor attestation requirements of Section 404 of the Sarbanes- Oxley Act of 2002;
- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements, and registration statements; and
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements.

We cannot predict if investors will find our common stock less attractive because we will rely on 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 may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of this offering, (b) in which we have total annual gross revenue of at least $1.0 billion, or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non- affiliates exceeds $700 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

Because the initial public offering price of our common stock will be substantially higher than the pro forma as adjusted net tangible book value per share of our outstanding common stock following this offering, new investors will experience immediate and substantial dilution.

The initial public offering price of our common stock is substantially higher than the pro forma as adjusted net tangible book value per share of our common stock immediately following this offering based on the total value of our tangible assets less our total liabilities. Therefore, if you purchase shares of our common stock in this offering, you will experience immediate dilution of $ per share, the difference between the assumed limited public offering price of $ per share, which is the midpoint of the range as set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, and the pro forma as adjusted net tangible book value per share of our common stock as of $, immediately after giving effect to the issuance of shares of our common stock in this offering. See the section titled "Dilution."

If securities or industry analysts do not publish research or reports about our business, or publish unfavorable research reports about our business, our share price and trading volume could decline.

The trading market for our common stock will, to some extent, depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us publishes unfavorable commentary about us or changes their opinion of our business prospects, our share price would likely decline. If one or more of these analysts ceases coverage of or fails to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We do not intend to pay dividends for the foreseeable future and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We have never declared or paid any dividends on our common stock. We intend to retain any earnings to finance the operation and expansion of our business, and we do not anticipate paying any cash dividends in the future. As a result, you may only receive a return on your investment in our common stock if the market price of our common stock increases. In addition, our loan and security agreements contain restrictions on our ability to pay dividends.

Our credit facility agreement contains covenants that may restrict our business and financing activities.

Borrowings under our credit facility agreement are secured by substantially all of our assets. Our credit facility agreements also restrict our ability to, among other things:

- dispose of or sell assets;
- make material changes in our business or management;
- consolidate or merge with or acquire other entities;
- incur additional indebtedness;
- incur liens on our assets;
- pay dividends or make distributions on our capital stock;
- make certain investments;
- enter into transactions with our affiliates; and
- make any payment in respect of any subordinated indebtedness.

These restrictions are subject to certain exceptions. In addition, our loan and security agreement requires us to maintain a minimum liquidity threshold, among other things.

The covenants in our credit facility agreements, as well as any future financing agreements that we may enter into, may restrict our ability to finance our operations, engage in, expand or otherwise pursue our business activities and strategies. Our ability to comply with these covenants may be affected by events beyond our control, and future breaches of any of these covenants could result in a default under our credit facility agreements. If not waived, future defaults could cause all of the outstanding indebtedness under our credit facility agreements to become immediately due and payable and terminate all commitments to extend further credit.

If we do not have or are unable to generate sufficient cash available to repay our debt obligations when they become due and payable, either upon maturity or in the event of a default, we may not be able to obtain additional debt or equity financing on favorable terms, if at all, which may negatively impact our ability to operate our business.

Our charter documents and Delaware law could discourage takeover attempts and lead to management entrenchment.

Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon closing of this offering contain provisions that could delay or prevent a change in control of our company. These provisions could also make it difficult for stockholders to elect directors that are not nominated by the current members of our board of directors or take other corporate actions, including effecting changes in our management. These provisions include:

- a classified board of directors with three-year staggered terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;

- the ability of our board of directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of our board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by a majority vote of our entire board of directors, the chairman of our board of directors or our chief executive officer, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors;
- the requirement for the affirmative vote of holders of at least % of the voting power of all of the then-outstanding shares of the voting stock, voting together as a single class, to amend the provisions of our amended and restated certificate of incorporation relating to the management of our business or our amended and restated bylaws, which may inhibit the ability of an acquiror to effect such amendments to facilitate an unsolicited takeover attempt; and
- advance notice procedures with which stockholders must comply to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time.

A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of, and do not currently intend to opt out of, this provision.

These and other provisions in our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by our then-current board of directors, including delay or impede a merger, tender offer, or proxy contest involving our company. The existence of these provisions could negatively affect the price of our common stock and limit opportunities for you to realize value in a corporate transaction.

Our board of directors is authorized to issue and designate shares of our preferred stock in additional series without stockholder approval.

Our amended and restated certificate of incorporation authorizes our board of directors, without the approval of our stockholders, to issue shares of our preferred stock, subject to limitations prescribed by applicable law, rules, and regulations and the provisions of our amended and restated certificate of incorporation, as shares of preferred stock in series, and to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences, and rights of the shares of each such series and the qualifications, limitations, or restrictions thereof. The powers, preferences, and rights of these additional series of preferred stock may be senior to or on parity with our common stock, which may reduce its value.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and the federal district courts of the United States of America will be the exclusive forums for substantially all disputes between us and our stockholders, which restricts our stockholders' ability to bring a lawsuit against us or our directors, officers, or employees in jurisdictions other than Delaware and federal district courts.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

Our amended and restated certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes forward-looking statements. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, strategy and plans, industry environment, potential growth opportunities, and our expectations for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would," or the negative version of these words and similar expressions are intended to identify forward-looking statements. We have based these forward-looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, strategy, short- and long-term business operations and objectives, and financial needs. The forward-looking statements are contained principally in "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." These forward-looking statements include, but are not limited to, statements concerning the following:

- our expectation that, for the foreseeable future, a significant portion of our revenues will be derived from sales of iFuse Implant System, or iFuse;
- our ability to expand our sales and marketing capabilities to increase demand for iFuse, expand geographically, and obtain favorable coverage and reimbursement determinations from third-party payors;
- our estimates of our market opportunity;
- developments or disputes concerning our intellectual property or other proprietary rights;
- competition in the markets we serve;
- our expectations of the reliability and performance of iFuse;
- our expectations of the benefits to patients, providers, and payors of iFuse;
- our reliance on a limited number of suppliers, including sole source suppliers, which may impact the availability of replacement instruments and materials;
- the factors we believe drive demand for iFuse and our ability to sustain or increase such demand;
- our ability to develop additional revenue opportunities, including new devices;
- the scope of protection we establish and maintain for intellectual property rights covering iFuse and any other device we may develop;
- our estimates regarding our costs and risks associated with our international operations and international expansion;
- our ability to retain and recruit key personnel and expand our sales force;
- our expectations regarding acquisitions and strategic operations;
- our ability to fund our working capital requirements;
- our compliance with, and the cost of, federal, state, and foreign regulatory requirements;
- the factors that may impact our financial results; and
- anticipated trends and challenges in our business and the markets in which we operate.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in "Risk Factors." Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of

factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

You should read this prospectus and the documents that we reference in this prospectus and have filed with the Securities and Exchange Commission as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

MARKET, INDUSTRY, AND OTHER DATA

This prospectus contains estimates, projections, and other information concerning our industry, our business, and the markets for our products and product candidates, including data regarding the estimated size of those markets for our products and product candidates, their projected growth rates, the perceptions and preferences of surgeons and patients regarding certain procedures, surgeon and patient data, as well as data regarding market research, estimates, and forecasts prepared by our management. We obtained the industry, market, and other data throughout this prospectus from our own internal estimates and research, as well as from industry publications and research, surveys, and studies conducted by third parties.

Information is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. In some cases, we do not expressly refer to the sources from which this data is derived.

USE OF PROCEEDS

We estimate that the net proceeds from this offering of shares of common stock will be approximately $ million, or $ million if the underwriters exercise their option to purchase additional shares in full, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus.

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our net proceeds by $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Each increase (decrease) by 1,000,000 shares in the number of shares offered by us would increase (decrease) the net proceeds from this offering by $ million, assuming the assumed initial public offering price remains the same, after deducting underwriting discounts and commissions.

We expect to use the net proceeds from this offering, as follows:

- Approximately $ million for sales and marketing activities to support ongoing commercialization of the iFuse Implant System, including, but not limited to, expansion of our sales force, additional medical affairs and educational efforts, and expanding our international sales presence; and
- The remainder, if any, for working capital and general corporate purposes, including research and development and clinical studies to bring new enhancements to the existing product offering.

We may also use a portion of our net proceeds to acquire or invest in complementary products, technologies, or businesses; however, we currently have no agreements or commitments to complete any such transactions.

As of the date of this prospectus, since we cannot specify with certainty all of the particular uses of the net proceeds, our management will have broad discretion over the use of the net proceeds from this offering. Pending the use of the proceeds from this offering, we intend to invest the net proceeds in short-term interest-bearing investment-grade securities, certificates of deposit or government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock, and we do not currently intend to pay any cash dividends on our capital stock in the foreseeable future. In addition, our credit facilities with SVB and Oxford restrict our ability to pay dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. Any future determination to pay dividends will be made at the discretion of our board of directors subject to applicable laws, and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. Our future ability to pay cash dividends on our capital stock may also be limited by the terms of any future debt or preferred securities or future credit facility.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of December 31, 2016:

- on an actual basis;
- on a pro forma basis to reflect:
  - the conversion of all outstanding shares of our preferred stock into an aggregate of 206,835,359 shares of common stock;
  - the issuance of shares of common stock upon the net exercise of outstanding warrants, with an exercise price of $0.51 per share, immediately prior to the closing of this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus;
  - the reclassification of our preferred stock warrant liability to additional paid-in capital immediately prior to the closing of this offering; and
  - the filing and effectiveness of our amended and restated certificate of incorporation upon the closing of this offering; and
- on a pro forma as adjusted basis to give further effect to the sale of shares of common stock in this offering assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

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

	As of December 31, 2016		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(1)
	(in thousands, except for share and per share amounts)		
Cash and cash equivalents	$ 27,900	$	$
Convertible preferred stock warrants liability	$ 588	$	$
Total borrowings(2)	29,310		
Convertible preferred stock, $0.0001 par value, 207,953,835 shares authorized, 203,954,077 shares issued and outstanding, actual; no shares issued and outstanding pro forma and pro forma as adjusted	113,121		
Stockholders' equity (deficit):			
Preferred stock, $0.0001 par value, no shares authorized, issued or outstanding, actual, 10,000,000 shares authorized, no shares issued or outstanding pro forma and pro forma as adjusted			
Common stock, $0.0001 par value, 338,000,000 shares authorized, 62,032,796 shares issued and outstanding, actual; shares issued and outstanding pro forma; and shares issued and outstanding pro forma as adjusted	7		
Additional paid-in capital	7,994		
Stockholders' notes receivable	(521)		
Accumulated other comprehensive income	472		
Accumulated deficit	(116,685)		
Total stockholders' equity (deficit)	(108,733)		
Total capitalization	$ 34,286	$	$

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by $ 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 underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 shares in the number of shares offered by us would increase (decrease) each of pro forma as adjusted cash and cash equivalents, additional paid-in-capital, total stockholders' equity and total capitalization by $ million, assuming that the assumed initial price to the public remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted information discussed above is illustrative only, and we will adjust this information based on the actual initial public offering price, number of shares offered and other terms of this offering determined at pricing.

(2) Total borrowings consist of $30.2 million of principal, net of discount.

The number of shares of common stock to be outstanding after this offering is based on shares of common stock outstanding as of December 31, 2016, and excludes the following:

- 44,322,182 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2016, with a weighted-average exercise price of $0.20 per share;
- 4,103,090 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2016, with a weighted-average exercise price of $0.48 per share;
- additional shares of our common stock reserved for future issuance under our 2008 Stock Plan, which shares will cease to be available for issuance at the time our 2017 Equity Incentive Plan becomes effective upon the execution of the underwriting agreement for this offering;
- shares of our common stock reserved for future issuance under our 2017 Equity Incentive Plan, as well as any increases in the number of share of common stock reserved for future issuance under this plan, which will become effective upon the execution of the underwriting agreement for this offering; and
- shares of our common stock reserved for future issuance under our 2017 Employee Stock Purchase Plan, as well as any increases in the number of share of common stock reserved for future issuance under this plan, which will become effective upon the execution of the underwriting agreement for this offering.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the assumed initial public offering price per share and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

Historical net tangible book value (deficit) per share represents our total tangible assets less our liabilities and preferred stock that is not included in equity divided by the total number of shares outstanding. As of December 31, 2016, our historical net tangible book value (deficit) was $(108.8) million, or $(1.75) per share.

Our pro forma net tangible book value as of December 31, 2016, was $ million, or $ per share after giving effect to (i) the conversion of all outstanding shares of our preferred stock into an aggregate of 206,835,359 shares of common stock; (ii) the issuance of shares of common stock upon the net exercise of outstanding warrants, with an exercise price of $0.51 per share, immediately prior to the closing of this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus; (iii) the reclassification of our preferred stock warrant liability to additional paid-in capital immediately prior to the closing of this offering.

After giving further effect to receipt of the net proceeds of our sale of shares of common stock, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of December 31, 2016, would have been approximately $ million, or $ per share. This represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ per share to our existing stockholders and an immediately dilution of $ per share to investors purchasing common stock in this offering.

The following table illustrates this dilution to new investors on a per share basis:

Assumed initial public offering price per share		$
Historical net tangible book value (deficit) per share as of December 31, 2016	$(1.75)	
Pro forma increase in net tangible book value (deficit) per share attributable to the conversion of our preferred stock and preferred stock warrants		
Pro forma net tangible book value per share as of December 31, 2016		
Increase in net tangible book value per share attributable to new investors purchasing shares in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors participating in this offering		$

If the underwriters' option to purchase additional shares in this offering is exercised in full, the pro forma as adjusted net tangible book value would be $ per share, the increase in the pro forma net tangible book value per share for existing stockholders would be $ per share and the dilution to new investors participating in this offering would be $ per share.

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

We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 shares in the number of shares we are offering would increase (decrease) our pro forma as adjusted net tangible book value by $ million, or $ per share, and the pro forma dilution per share to investors in this offering

by $ per share, assuming that the assumed initial public offering price remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses. The pro forma information discussed above is illustrative only and will change based on the actual initial public offering price, number of shares and other terms of this offering determined at pricing.

The table below summarizes, as of December 31, 2016, on the pro forma basis described above, the number of shares of our common stock, the total consideration, and the average price per share (1) paid to us by our existing stockholders and (2) to be paid by new investors participating in this offering assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, before deducting underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Weighted-Average Price Per Share
	Number	Percent	Amount	Percent	
			(in thousands)		
Existing stockholders		%	$	%	$
New investors					
Total		100.0%	$	100.0%	

In addition, if the underwriters' option to purchase additional shares is exercised in full, the number of shares held by existing stockholders will be reduced to % of the total number of shares of common stock to be outstanding upon closing of this offering, and the number of shares of common stock held by new investors participating in this offering will be further increased to % of the total number of shares of common stock to be outstanding upon closing of the offering.

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) total consideration paid by new investors by $ million and increase (decrease) the percent of total consideration paid by new investors by %, assuming the number of shares we are offering, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of shares we are offering. An increase (decrease) of 1,000,000 in the number of shares offered by us would increase (decrease) total consideration paid by new investors by $ million, assuming that the assumed initial price to the public remains the same.

The number of shares of common stock to be outstanding after the closing of this offering excludes:

- 44,322,182 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2016, with a weighted-average exercise price of $0.20 per share;
- 4,103,090 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2016, with a weighted-average exercise price of $0.48 per share;
- additional shares of our common stock reserved for future issuance under our 2008 Stock Plan, which shares will cease to be available for issuance at the time our 2017 Equity Incentive Plan becomes effective upon the execution of the underwriting agreement for this offering;
- shares of our common stock reserved for future issuance under our 2017 Equity Incentive Plan, as well as any increases in the number of share of common stock reserved for future issuance under this plan, which will become effective upon the execution of the underwriting agreement for this offering; and
- shares of our common stock reserved for future issuance under our 2017 Employee Stock Purchase Plan, as well as any increases in the number of share of common stock reserved for future issuance under this plan, which will become effective upon the execution of the underwriting agreement for this offering.

To the extent that any outstanding options or warrants are exercised, new investors will experience further dilution.

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 the consolidated financial statements and related notes included within this prospectus. The consolidated statements of operations data for the years ended December 31, 2015 and 2016, and the consolidated balance sheet data at December 31, 2015 and 2016, are derived from our audited consolidated financial statements and related notes included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results to be expected in the future.

	Year Ended December 31,	
	2015	2016
	(in thousands, except per share data)	
Consolidated Statements of Operations Data:		
Revenue	$ 41,173	$ 42,101
Cost of goods sold	5,398	5,165
Gross profit	35,775	36,936
Operating expenses:		
Sales and marketing	39,799	35,215
Research and development	8,606	6,380
General and administrative	13,793	12,906
Total operating expenses	62,198	54,501
Loss from operations	(26,423)	(17,565)
Interest and other income (expense), net:		
Interest income	22	71
Interest expense	(1,686)	(3,308)
Other income (expense), net	(67)	213
Net loss	(28,154)	(20,589)
Other comprehensive income:		
Changes in foreign currency translation	247	67
Comprehensive loss	$ (27,907)	$ (20,522)
Net loss per common share, basic and diluted(1)	$ (0.51)	$ (0.35)
Weighted-average common shares used to compute basic and diluted net loss per common share(1)	55,292,845	59,659,307
Pro forma net loss per common share, basic and diluted (unaudited)(1)	$	$
Pro forma weighted-average number of common shares used to compute basic and diluted net loss per share(unaudited)(1)		

(1) See Note 14 to our consolidated financial statements included elsewhere in this prospectus for the method used to calculate net loss per common share, basic and diluted, and pro forma net loss per common share, basic and diluted.

	As of December 31,	
	2015	2016
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash and cash equivalents	$ 20,272	$ 27,900
Working capital	23,089	22,938
Total assets	35,421	39,436
Convertible preferred stock warrant liability	957	588
Total borrowings	25,056	29,310
Total liabilities	32,822	35,048
Convertible preferred stock	92,796	113,121
Total stockholders' deficit	(90,197)	(108,733)

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 our consolidated financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks, uncertainties, and assumptions, such as our plans, objectives, expectations, intentions and beliefs. Our actual results could differ materially from those discussed in these forward-looking statements. Some of the numbers included herein have been rounded for convenience of presentation. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in "Risk Factors" included elsewhere in this prospectus.

Overview

We are a medical device company that has pioneered a proprietary minimally invasive surgical implant system to fuse the sacroiliac joint for treatment of common types of sacroiliac joint disorders that cause lower back pain. We introduced our iFuse Implant System, or iFuse, in 2009 in the United States and in 2010 in certain countries in the European Union. Since 2009, more than 25,000 iFuse Procedures have been performed by over 1,300 surgeons, primarily in the United States. Based on our commercial experience and our market research, we believe iFuse is currently used in approximately 70% of minimally invasive surgical fusions of the sacroiliac joint in the United States.

We have incurred net losses since our inception in 2008. During 2015 and 2016, we had net losses of $28.2 million and $20.6 million, respectively. As of December 31, 2016, we had an accumulated deficit of $116.7 million. To date, we have financed our operations primarily through private placements of equity securities, certain debt-related financing arrangements and sales of our products. We have devoted substantially all of our resources to research and development of our products, sales and marketing activities and clinical and regulatory matters for our products. There can be no assurances that we will be able to generate sufficient revenue from our existing products or from any of our product candidates in development, and to transition to profitability and generate positive cash flows. Following this offering, we expect that our operating expenses will increase as we continue to build our commercial infrastructure, develop, enhance and commercialize our existing and new products and incur additional operational and reporting costs associated with being a public company. As a result, we expect to continue to incur operating losses for the foreseeable future and may never achieve profitability. Furthermore, even if we do achieve profitability, we may not be able to sustain or increase profitability on an ongoing basis. If we do not achieve profitability, it will be more difficult for us to finance our business, accomplish our strategic objectives and continue operations.

Factors Affecting Results of Operations

Coverage and Reimbursement

Prior to our launch of iFuse, Medicare and most private insurance companies reimbursed surgeons for sacroiliac joint fusions using either an established Category I Current Procedure Terminology, or CPT, code or an unlisted code. A Category I CPT code is typically assigned to procedures that are consistent with contemporary medical practice and are widely performed. Procedures with a longstanding Category I CPT code are usually reimbursed.

However, effective July 1, 2013, the AMA's CPT Editorial Panel created a new Category III CPT code for fusion of the sacroiliac joint using a minimally invasive or percutaneous approach. Category III CPT codes are used for new and emerging technologies and are reimbursed sporadically. This new code functionally redefined coding for sacroiliac joint fusions because it meant that minimally invasive or percutaneous fusion procedures

should not be billed using the general Category I CPT code for sacroiliac fusion surgery. This coding change was accompanied by the establishment of a Medicare hospital outpatient rate for the new code.

Following the creation of the new Category III CPT code, a number of papers demonstrating the clinical success of the iFuse Procedure were published. These studies, along with the support of several professional societies and surgeons, resulted in the AMA CPT Editorial Panel establishing a new Category I CPT code specifically for sacroiliac joint fusion surgery using a minimally invasive or percutaneous approach. This new Category I CPT code became effective on January 1, 2015.

Subsequently, in March 2015, our INSITE prospective, randomized controlled multi-center clinical trial was published. In June 2015, the largest spine society in the world, the North American Spine Society, or NASS, published a positive coverage recommendation document, based on the clinical evidence, advocating to insurance companies and Medicare Administrative Contractors, or MACs, that sacroiliac joint fusion using a minimally invasive surgical approach should be routinely reimbursed. In March 2015, International Society for Advancement of Spine Surgery, or ISASS also published a similar positive advocacy document intended to encourage insurance companies in the United States to reimburse for the procedure.

Coverage decisions for this code are made independently by each of the private insurance companies and the eight MACs, and the process of obtaining coverage is laborious. As of June 30, 2016, because of the iFuse clinical evidence, all eight MACs were covering the procedure. As of March 2017, eight of the largest 50 private payors were covering the iFuse Procedure regularly while the vast majority of private payors were evaluating their coverage policies. In addition, because of the iFuse clinical evidence, the private payors HCSC, Geisinger and SelectHealth, have issued positive coverage policies for iFuse while specifically excluding coverage for any competitive products. Beginning in the fourth quarter of 2016, the increasing coverage, combined with our sales and marketing efforts, has led to an increase in the number of procedures and a return to revenue growth.

Our Sales Force

We market and sell iFuse primarily through a direct sales force and a small number of third-party distributors. Our target customer base includes approximately 7,500 surgeons who perform spine and/or pelvic surgery, including orthopedic spine surgeons, neurosurgeons, general orthopedic surgeons, and orthopedic trauma surgeons.

Our direct sales organization in the United States is comprised of seven sales regions. Each region is comprised of a number of territory sales managers who act as the primary customer contact. Our territory sales managers have extensive training and experience selling medical devices for spine problems and pain management, generally focusing on emerging technologies and markets. As of December 31, 2016, our territory sales managers were led by seven regional sales managers who reported to our Senior Director of U.S. Sales. Our Senior Director of U.S. Sales reports to our Chief Commercial Officer. As of December 31, 2016, our U.S. sales force consisted of 43 sales representatives directly employed by us and 12 third-party distributors.

In addition to general sales and marketing training, we provide our sales organization with comprehensive, hands-on cadaveric and dry-lab training sessions focusing on the clinical benefits of our products and how to use them. We believe our robust training and professional development programs have been an important component of our success to date and will help support our anticipated future growth. We expect to continue to increase the size of our sales organization in order to increase sales and market penetration and to provide the significant, ongoing level of customer support required by our sales and marketing strategy.

As of December 31, 2016, we had 26 employees working in our European operations, and have established operations in Italy (2010), Germany (2014) and United Kingdom (2015). As of December 31, 2016, our international sales force consisted of 11 sales representatives directly employed by us and 29 exclusive third-party distributors, which together have had sales in 27 countries in 2016. We anticipate continuing to build our

operations in the major European countries while establishing distributor arrangements in smaller ones. We intend to follow a similar model in Europe to the one established in the United States, working with internationally recognized healthcare professional experts as we expand our training and reimbursement activities. As of December 31, 2016, surgeons had performed the first iFuse Procedures in New Zealand, Hong Kong and Australia.

We have in the past and expect in the future to enter into different compensation arrangements with our sales professionals which include minimum guaranteed commissions. This has impacted our compensation expenses in the past and we expect it will in the future.

Share-Based Compensation Expense

Prior to this offering, we have granted employee compensation in the form of equity awards. In connection with this offering, we expect to implement equity compensation incentive plans which provide for future grants of equity compensation awards to our employees and directors. We will measure the share compensation cost in the period in which we grant such awards and recognize the share compensation expense over the requisite service period of the award.

Public Company Costs

The activities associated with the initial public offering process, as well as any future public offerings, may have a significant impact on our results of operations and cash flows. We expect to incur a material increase in incremental general and administrative expenses as a result of becoming a publicly traded company. These costs include expenses associated with our financial and operational reporting, investor relations, registrar and transfer agent fees, incremental insurance costs, and accounting and legal services, among others.

Components of Results of Operations

Revenue

We derive substantially all our revenue from sales of iFuse. Revenue from sales of iFuse fluctuate based on volume of cases, discounts, mix of international and U.S. sales, and the number of implants used for a particular patient. Similar to other orthopedic companies, our revenue can also fluctuate from quarter to quarter due to a variety of factors, including reimbursement, sales force, physician awareness, and seasonality. Our revenue from international sales may also be significantly impacted by fluctuations in foreign currency exchange rates between the U.S. dollar (our reporting currency) and the local currency.

Cost of Goods Sold, Gross Profit, and Gross Margin

We utilize third-party manufacturers for production of the iFuse Implants and instrument sets. Cost of goods sold consists primarily of costs of the components of iFuse Implants and instruments, scrap and inventory obsolescence, as well as distribution-related expenses such as logistics and shipping costs. Beginning in 2013, our cost of goods sold included the effect of the excise tax on the sale of medical devices sold in the United States. Effective January 2016, the Patient Protection and Affordable Care Act was amended to include a provision to suspend the sales tax on medical devices through 2017. We anticipate that our cost of goods sold will increase as reimbursement increases and as we develop and sell new products, including our next generation iFuse implant, the iFuse-3D, and new instruments.

Our gross margins have been and will continue to be affected by a variety of factors, including the cost to have our products manufactured for us, pricing pressure, and the factors described above impacting our revenue. Our gross margins are typically higher on products we sell directly as compared to products we sell through third-party distributors.

Operating Expenses

Our operating expenses consist of sales and marketing, research and development, and general and administrative expenses. Personnel costs are the most significant component of operating expenses and consist of salaries, sales commissions and other cash and stock-based compensation related expenses. We expect operating expenses to increase in absolute dollars, as we continue to invest and grow our business, but decrease as a percentage of revenue. In late 2015, we implemented cost-saving measures which reduced our operational expenses though headcount reductions, reduced project spending, and more targeted marketing and surgeon trainings.

Sales and Marketing Expenses

Sales and marketing expenses primarily consist of salaries, stock-based compensation expense, and other compensation related costs, for personnel employed in sales, marketing, medical affairs and professional education departments. In addition, our sales and marketing expenses include commissions and bonuses, generally based on a percentage of sales, to our sales managers and directors, direct sales representatives and third-party distributors. We expect our sales and marketing expenses to increase in absolute dollars with the continued commercialization of our current and future products and continued investment in our global sales organization, including broadening our relationships with third-party distributors, expanding exclusivity commitments among them and increasing the number of our direct sales representatives, especially with increased reimbursement and adoption in the United States. Our sales and marketing expenses may fluctuate from period to period due to the seasonality of our business and as we continue to add direct sales representatives in new territories.

Research and Development Expenses

Our research and development expenses primarily consist of engineering, product development, clinical and regulatory expenses (including clinical study expenses), and consulting services, outside prototyping services, outside research activities, materials, depreciation and other costs associated with development of our products. Research and development expenses also include related personnel and consultants' compensation and stock-based compensation expense. We expense research and development costs as they are incurred. We expect research and development expense to increase in absolute dollars as we develop new products, add research and development personnel and undergo clinical activities, including more clinical studies to gain additional regulatory clearances and wider surgeon adoption.

General and Administrative Expenses

General and administrative expenses primarily consist of compensation, stock-based compensation expense, and other costs for finance, accounting, legal, compliance, reimbursement, and administrative matters. We expect our general and administrative expenses to increase to support the growth of our business. We also expect to incur additional general and administrative expenses as a result of operating as a public company, including expenses related to compliance with the rules and regulations of the Securities and Exchange Commission and those of the Nasdaq Global Market on which our securities will be traded, additional insurance expenses, investor relations activities, and other administrative and professional services. We expect the general and administrative expenses to increase as we continue to incur incremental costs for public company reporting and governance, but decrease as a percentage of revenue over time.

Interest Expense

Interest expense is related to borrowings and includes the amortization of debt discounts derived from the issuance of warrants.

Other Income (Expense), Net

Other income (expense), net consists primarily of the changes in fair value of our preferred stock warrant liability and net gain (loss) on foreign currency transactions. In connection with this initial public offering, we expect that our preferred stock warrant liability will be eliminated.

Comparison of the Years Ended December 31, 2015 and 2016

Revenue, Cost of Goods Sold, Gross Profit, and Gross Margin

	Year Ended December 31,			
	2015	2016	$ Change	% Change
	(in thousands, except for percentages)			
Revenue	$ 41,173	$ 42,101	$ 928	2%
Cost of goods sold	5,398	5,165	(233)	(4)%
Gross profit	35,775	36,936	1,161	3%
Gross margin	87%	88%		

Revenue. Revenue increased $0.9 million, or 2%, from 2015 and 2016. The increase of $0.6 million was primarily due to higher international revenue as a result of an expanded direct sales force. The remaining increase of $0.3 million was due to improved U.S. reimbursement coverage, which resulted in a modest increase in the number of iFuse Procedures performed domestically.

Cost of Goods Sold, Gross Profit, and Gross Margin. Total cost of goods sold decreased $0.2 million, or 4%, from 2015 to 2016. The decrease was primarily due to $0.7 million in reduced medical device tax as a result of a 2-year tax moratorium effective January 1, 2016 and a $0.3 million decrease in excess write-offs of surgical tools incurred in 2015. These decreases were offset primarily by an increase of $0.8 million in product costs as a result of a higher overhead component to our implants. Gross profit increased $1.2 million, or 3%, to $36.9 million from 2015 to 2016 due to higher revenue and lower cost of sales.

Operating Expenses

	Year Ended December 31,					
	2015		2016			
	Amount	% of Total Revenue	Amount	% of Total Revenue	$ Change	% Change
	(in thousands, except for percentages)					
Sales and marketing	$39,799	97%	$35,215	84%	$ (4,584)	(12)%
Research and development	8,606	21%	6,380	15%	(2,226)	(26)%
General and administrative	13,793	34%	12,906	31%	(887)	(6)%
Total operating expenses	$62,198	152%	$54,501	130%	$ (7,697)	

Sales and Marketing Expenses. Sales and marketing expenses decreased $4.6 million, or 12%, from 2015 to 2016. The decrease was primarily due to $2.9 million in reduced salaries, guaranteed minimum commissions, and related expenses from lower headcount, $0.7 million in reduced surgeon training costs, $0.5 million in lower travel expenses for employees and surgeon training programs, and $0.5 million in reduced general marketing expenses. The reductions were part of cost-saving measures put in place in late 2015 with a goal of focusing resources on high potential sales and marketing opportunities.

Research and Development Expenses. Research and development expenses decreased $2.2 million, or 26%, from 2015 to 2016. The decrease was partially due to a $0.9 million reduction in clinical trial expense as the

INSITE and SIFI studies matured. The decrease was also due to $0.6 million in reduced consulting and materials from lower engineering project spending and a $0.6 million reduction in salaries and related expenditures, including travel, from lower headcount; both part of the cost-saving measures put in place in late 2015 to focus on key research and development activities that would drive the business in the near term.

General and Administrative Expenses. General and administrative expenses decreased by $0.9 million, or 6%, from 2015 to 2016. The decrease was partially due to a $1.3 million reduction in legal fees of which $0.7 million was for general legal matters and $0.6 million was for compliance work and investigatory work performed in 2015 related to a legal claim. In addition, the decrease was partially due to a $0.6 million reduction in external professional fees related to reimbursement related activities and a $0.4 million reduction in compliance and regulatory fees incurred in 2015 in efforts to prepare for an offering. These decreases were offset primarily by an increase of $1.5 million in professional public offering fees previously recorded on the Balance Sheet, recognized in 2016 as a result of delays in the public offering process.

Interest and Other Income (Expense), Net

	Years Ended December 31,			
	2015	2016	$ Change	% Change
	(in thousands except for percentages)			
Interest expense	$ (1,686)	(3,308)	$ (1,622)	96%
Other income (expense), net	(45)	284	329	(731)%

Interest Expense. Interest expense increased $1.6 million, or 96%, from 2015 to 2016 primarily due to an additional debt financing arrangement with Silicon Valley Bank, or SVB, and Oxford Finance LLC, or Oxford, that we entered into in late October 2015.

Interest Income and Other Income (Expense), Net. Interest income and other income (expense) increased $0.3 million, from 2015 to 2016, primarily due a gain of $0.4 million related to the change in the fair value of our preferred stock warrants outstanding, which are accounted for as a liability and revalued at each reporting period. The gain was offset by $0.1 million of foreign exchange losses based on movement in the British Pound and Euro.

Liquidity, Capital Resources, and Borrowings

At December 31, 2016, our principal sources of liquidity were cash and cash equivalents of $27.9 million, unused borrowing capacity under our line of credit of the lesser of $4.0 million and 80% of the amount of certain customer accounts receivable, and $5.0 million of unused borrowing capacity under our Term Loan which is contingent upon achievement of certain conditions. Since inception, we have financed our operations through private placements of preferred stock, debt financing arrangements, and the sale of our products. Subsequently, in February and March 2017, we completed a second round of the Series 7 preferred stock issuance for $5.4 million. At December 31, 2016, we had $29.3 million principal amount of outstanding debt under our Term Loan, net of debt discounts. Our Term Loan and Line of Credit are described below under “Borrowings.”

We have incurred an accumulated deficit of $116.7 million from our operations through December 31, 2016, and expect to incur additional losses in the future. Our recurring losses from operations and negative cash flows raise substantial doubt about our ability to continue as a going concern. As a result, an explanatory paragraph was included in the report on our financial statements as of, and for the year ended, December 31, 2016, describing the existence of substantial doubt about our ability to continue as a going concern. We believe that our cash and cash equivalents as of December 31, 2016, together with the expected net proceeds from this offering, cash generated from sales and funds available under our borrowing arrangements will be sufficient to meet our anticipated cash requirements for at least the next 12 months following this offering. We will need to

generate significant sales to achieve profitability and we might not be able to do so. Our expected future capital requirements may depend on many factors including expanding our surgeon base, the expansion of our salesforce, and the timing and extent of spending on the development of our technology to increase our product offerings. We may seek funds through borrowings or through additional rounds of financing, including private or public equity or debt offerings. Any future debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Furthermore, we cannot be certain that additional funding will be available on acceptable terms, if at all. If we are unable to raise additional capital or generate sufficient cash from operations to adequately fund our operations, we will need to curtail planned activities to reduce costs, which will likely harm our ability to execute on our business plan and continue operations.

Borrowings

In October 2015, we entered into a term loan facility and a revolving line of credit with SVB and Oxford, for (i) $35.2 million and (ii) the lesser of $4.0 million and 80% of the amount of certain customer accounts receivable, respectively. The first tranche of the term loan closed in October 2015 for $16.2 million, the proceeds of which were used to pay off previous loans with SVB of $15.5 million and final fees of $0.7 million related to the previous loans. Prepayment fees on the then existing debt facilities were waived. We drew the second tranche of $10.0 million in November 2015 and the third tranche of $4.0 million in December 2016. The agreement also provides for a fourth tranche of $5.0 million available through March 2017 contingent upon us achieving at least $24.0 million in trailing six-month revenue. The maturity date of the Term Loan is December 1, 2019, and it carries an interest rate equal to the greater of 11% or the WSJ Prime rate plus 7.75%. In connection with this agreement, we also issued to SVB and Oxford warrants to purchase, in the aggregate, 1,145,231 shares of our Series 6 preferred stock, with an exercise price of $0.92 per share. Subsequently, in August 2016, we amended the agreement to extend the draw period of the fourth tranche for an additional three months. In conjunction with the additional draw of the Term Loan, we issued an additional 174,844 shares warrants for the purchase of Series 7 preferred stock at an exercise price of $0.56 per share in December 2016. In February 2017, we amended the agreement to extend the interest only period by six months to October 2017 and extended the draw period of the fourth tranche through January 2018. As of the date of this prospectus, our total debt balance is $30.2 million.

As of December 31, 2016, the amount of the revolving line of credit was the lesser of $4.0 million or 80% of the amount of certain customer accounts receivable. It carries an interest rate equal to the WSJ Prime rate plus 3% with a maturity of December 1, 2019. No draws have been made on this facility as of December 31, 2016.

All debt facilities continue to be collateralized by all of our assets except intellectual property. We agreed not to pledge a security interest in our intellectual property to any other party so long as SVB and Oxford has debt outstanding from us.

As of December 31, 2016, we were in compliance with all of our debt obligations and covenants.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2016:

	Payments Due By Period				
	Total	Less than 1 year	1-3 years	4-5 years	More than 5 years
			(in thousands)		
Principal obligations on the debt arrangements	$30,200	$ 8,236	$21,964	$ —	$ —
Interest obligations on the debt arrangements	5,567	3,119	2,448	—	—
Operating leases[1]	2,111	1,248	751	80	32
Total	$37,878	$12,603	$25,163	$ 80	$ 32

(1) Operating lease obligations consist primarily of lease payments for our San Jose, California facility and Europe facilities.

Cash Flows

The following table sets forth the primary sources and uses of cash for each of the periods presented below:

	Years Ended December 31,			
	2015	2016	$ Change	% Change
	(in thousands, except for percentages)			
Net cash (used in) provided by:				
Operating activities	$(26,718)	$(16,753)	$ 9,965	(37)%
Investing activities	(2,238)	(441)	1,797	(80)%
Financing activities	31,383	24,755	(6,628)	(21)%
Effects of exchange rate changes on cash and cash equivalents	247	67	(180)	(73)%
Net increase in cash and cash equivalents	$ 2,674	$ 7,628	$ 4,954	

Cash Used in Operating Activities

Net cash used in operating activities improved $10.0 million, or 37%, from 2015 to 2016. The decrease in the net cash used in operating activities was primarily due to cost savings efforts, reduced inventory levels, and timing of vendor payments.

Cash Used in Investing Activities

Net cash used in investing activities improved $1.8 million, or 80%, from 2015 to 2016. The decrease in net cash used in investing activities was primarily due to a reduction in instrument set purchases. The instrument sets are carried by our sales representatives and used during iFuse procedures.

Cash Provided by Financing Activities

Cash provided by financing activities declined $6.6 million, or 21%, from 2015 to 2016. Cash provided by financing activities during 2016 consisted of net proceeds of $20.3 million from the issuance of Series 7 preferred stock from June through August 2016, proceeds from additional debt financing of $4.0 million in December 2016 and $0.3 million from the exercise of common stock options. Cash provided by financing activities during 2015 consisted of net proceeds of $21.6 million from the issuance of Series 6 preferred stock from April through June 2015, proceeds from debt financing of $10.0 million in November 2015, and $0.8 million from the exercise of common stock options, partially offset by payments of $1.1 million related to the preparation of a public offering.

Critical Accounting Policies, Significant Judgments, and Use of Estimates

This discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from

these estimates. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates. For more detail on our critical accounting policies, see Note 2 to our consolidated financial statements appearing elsewhere in this prospectus.

Revenue Recognition

Our revenue is derived from the sale of our products to medical groups and hospitals through our direct sales force and distributors throughout the United States and Europe.

We recognize revenue when persuasive evidence of an arrangement exists, title and risk of loss has transferred to the customer, the sales price is fixed or determinable, and collectability is reasonably assured. For the majority of product sales where our sales representative delivers the product at the point of implantation at hospitals or other medical facilities, we recognize revenue related to product sales upon delivery of the product and receipt of a purchase agreement or agreement on pricing terms with the customer. For the remaining sales to distributors, where the product is ordered in advance of implantation and a valid purchase order has been received, we recognize revenue upon the delivery of product and when all other revenue recognition criteria are met.

Stock-based Compensation

Stock-based compensation cost is measured at the date of grant based on the estimated fair value of the award, net of estimated forfeitures. We estimate the grant date fair value and the resulting stock-based compensation expense using the Black Scholes option pricing model. The grant date fair value of a stock-based award is recognized as an expense over the requisite service period of the award on a straight-line basis.

We account for stock-based compensation arrangements with non-employees using a fair value approach. The fair value of these options is measured using the Black-Scholes option pricing model reflecting an expected life that is assumed to be the remaining contractual life of the option. The compensation costs of these arrangements are subject to remeasurement over the vesting terms as earned. In July 2016, we modified the terms of 10,365,515 vested and unvested stock option awards by reducing their exercise price to the fair value of our common stock on the date of modification which resulted in an incremental value of $0.4 million being allocated to the options.

We recorded total non-cash stock-based compensation expense of $1.2 million and $1.4 million during 2015 and 2016, respectively. At December 31, 2016, we had $2.9 million of total unrecognized employee stock-based compensation expense, net of estimated forfeitures, related to stock option grants. This amount will be recognized as expense over a weighted-average period of 2.5 years. We expect to continue to grant stock options in the future, and, to the extent that we do, our actual stock-based compensation expense recognized in future periods will likely increase. The stock-based compensation expense that we recognized in 2016 increased, and the stock-based compensation expense that we recognized in the first quarter of 2017 and will recognize in each quarter thereafter through 2019 will increase, as a result of our determination to calculate that expense based on deemed fair values of our common stock that are higher than the exercise prices of certain stock options granted prior to this offering.

The intrinsic value of all outstanding options as of the date of this prospectus was approximately million based on the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, of which approximately $ million related to vested options and approximately $ million related to unvested options.

Determining Fair Value of Stock Options

We determine the fair value of each grant of stock options using the estimated fair value of our common stock and the assumptions set forth below. Each of these inputs is subjective and generally requires significant judgment.

The fair value of employee stock options was estimated using the following assumptions:

	Years Ended December 31,	
	2015	2016
Expected term	6.25	6.25
Expected volatility	45%-50%	44%-54%
Risk-free interest rate	1.54%-1.88%	1.14%-2.19%
Dividend yield	0%	0%

Our board of directors intends all options granted to be exercisable at a price per share not less than the per share fair value of our common stock underlying those options on the date of grant. The estimated fair value of our common stock was determined at each valuation date 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*. Our board of directors, with the assistance of management, developed these valuations using significant judgment and taking into account numerous factors, including developments at our company, market conditions and contemporaneous independent third-party valuations using the Market Approach. The enterprise values derived from the approaches discussed above were then allocated to each of our classes of stock using the Option Pricing Method, or OPM, the Probability Weighted Expected Return Method, or PWERM, or the Hybrid Method. The allocation of these enterprise values to each part of our capital structure, including our common stock, was done based on the OPM and the Common Stock Equivalent method for the initial public offering scenarios. OPM treats the rights of the holders of preferred and common shares as equivalent to call options on any value of the enterprise above certain break points of value based upon the liquidation preferences of the holders of preferred shares, as well as their rights to participation and conversion. Thus, the estimated value of the common stock can be determined by estimating the value of its portion of each of these call option rights. The OPM backsolve method derives the implied enterprise value of a company from a recent transaction involving the company's own securities issued on an arms-length basis. Under the PWERM the value is estimated based upon analysis of future values for the enterprise under varying scenarios, probabilities are ascribed to these scenarios based on expected future outcomes. Following the closing of this offering, the fair value of our common stock will be determined based on the closing price of our common stock on the Nasdaq Global Market.

Preferred Stock Warrant Liability

We have issued freestanding warrants to purchase shares of common and preferred stock in connection with the issuance of various debt facilities and debt instruments. We account for these warrants as a liability in our financial statements because the underlying instrument into which the warrants are exercisable contains deemed liquidation provisions that are outside our control.

The warrants were recorded at fair value using the Black-Scholes option pricing model. The warrants are re- measured at each financial reporting period with any changes in fair value being recognized as a component of other income (expense), net in the statements of operations. We will continue to adjust the liability for changes in fair value until the earlier of (i) exercise or expiration of the warrants, or (ii) the closing of an initial public offering, at which time certain preferred stock warrants will be converted into warrants to purchase common stock and the liability will be reclassified to additional paid-in capital, if they qualify for equity classification.

Common Stock Warrants

We account for warrants for shares of common stock as equity in accordance with the accounting guidance for derivatives. The accounting guidance provides a scope exception from classifying and measuring as a financial liability a contract that would otherwise meet the definition of a derivative if the contract is both (i) indexed to the entity's own stock and (ii) classified in the stockholders' deficit section of the balance sheet. We determined that the warrants for shares of common stock issued in connection with the debt arrangements are

required to be classified in equity. We estimate the fair value of our warrants for shares of common stock by using the Black-Scholes option pricing model. Warrants classified as equity are recorded as additional paid-in capital on the consolidated balance sheet and no further adjustments to their valuation are made.

Income Taxes

We account for income taxes under the liability method, whereby deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using the enacted tax rates in effect for the year in which the differences are expected to affect taxable income. We assess the likelihood that the resulting deferred tax assets will be realized. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

As of December 31, 2016, we had net operating loss carryforwards of approximately $105.0 million and $83.7 million available to reduce future taxable income, if any, for federal and state income tax purposes, respectively. If not utilized, our federal and state net operating loss carryforwards begin to expire in 2029 and 2017, respectively, and valuation allowances have been established, where necessary. We also have research credit carryforwards of approximately $1.7 million and $1.5 million available to reduce future taxable income, if any, for both federal and California state income tax purposes, respectively. The federal credits begin to expire in 2030, and the California credits have no expiration date. Realization of these net operating loss and research credit carryforwards could expire unused and be unavailable to reduce future income tax liabilities, which could materially and adversely affect our results of operations.

We assess all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the positions sustainability and is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and we will determine whether (i) the factors underlying the sustainability assertion have changed and (ii) the amount of the recognized tax benefit is still appropriate. The recognition and measurement of tax benefits requires significant judgment. Judgments concerning the recognition and measurement of a tax benefit may change as new information becomes available.

The Tax Reform Act of 1986 limits the use of net operating loss and tax credit carryforwards in certain situations where changes occur in the stock ownership of a company. We have determined that we have experienced Section 382 ownership changes in 2010 and $1.4 million of our NOL carryforwards are subject to limitation.

Off-Balance Sheet Arrangements

Through December 31, 2016 we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Seasonality

Our business is affected by seasonal variations. For instance, we have historically experienced lower sales in the summer months and higher sales in the last quarter of the fiscal year. However, taken as a whole, seasonality does not have a material impact on our financial results.

Inflation

We believe that inflation has not had a material impact on our consolidated statements of operations for 2015 and 2016. However, there can be no assurance that future inflation will not have an adverse impact on our consolidated results of operations or financial conditions.

JOBS Act Accounting Election

In April 2012, the Jumpstart Our Business Startups Act of 2012, or JOBS Act, was enacted. Section 107(b) 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 for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period, and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an emerging growth company, we may rely on certain of these exemptions, including without limitation, (i) not being required to provide 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 (ii) not being required to comply with any requirement that may be adopted by the PCAOB regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, known as the auditor discussion and analysis. We will remain an emerging growth company until the earlier of (a) the last day of the fiscal year in which we have total annual gross revenue of $1.0 billion or more; (b) the last day of the fiscal year following the fifth anniversary of the date of the closing of this offering; (c) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous six years; or (d) the date on which we are deemed to be a large accelerated filer under the rules of the U.S. Securities and Exchange Commission, or SEC.

Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

We are exposed to interest rate risks related to our cash, cash equivalents and borrowings. We had cash and cash equivalents of $27.9 million as of December 31, 2016, which consist of bank deposits. Our cash balance consisted of bank deposits and money market funds in 2015 and bank deposits in 2016. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations in interest income have not been significant.

We have outstanding debt of $30.2 million as of December 31, 2016 with an interest rates ranging from 11% to 11.50%. As of the date of this prospectus, we have outstanding debt of $30.2 million and we are exposed to interest rate risk in connection with any future borrowings with SVB and Oxford under our term loan, which carries an interest rate equal to the greater of 11% or the WSJ Prime rate plus 7.75%, and our revolving line of credit, which carries an interest rate equal to the WSJ Prime rate plus 3%. For variable rate debt, interest rate changes generally do not affect the fair value of the debt instrument, but do impact future earnings and cash flows, assuming other factors are held constant. In the ordinary course of business, we may enter into contractual arrangements to reduce our exposure to interest rate risks. We do not believe that a 10% change in interest rates would have a significant impact on our consolidated financial statements.

Foreign Currency Exchange Risk

We operate in countries other than the United States, and, therefore, we are exposed to foreign currency risks. Revenue from sales outside of the United States represents approximately 8% of our total revenue. We bill most direct sales outside of the United States in local currencies, which are mostly comprised of the Euro and the British Pound. Operating expenses related to these sales are largely denominated in the same respective currency, thereby limiting our transaction risk exposure. We therefore believe that the risk of a significant impact on our operating income from foreign currency fluctuations is not significant. We do not believe that a 10% change in foreign currency exchange rates would have a significant impact on our net income. We do not currently hedge our exposure to foreign currency exchange rate fluctuations; however, we may choose to hedge our exposure in the future.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, 2014-09, *Revenue from Contracts with Customers*, which required an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. ASU 2014-09 will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. The new standard is effective January 1, 2018 for public companies. Early application is permitted as of January 1, 2017. The standard permits the use of either the retrospective or cumulative effect transition method. In March 2016, the FASB issued ASU 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net), which clarifies the implementation guidance on principal versus agent considerations in ASU 2014-09. In April 2016, the FASB issued ASU 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing, which clarifies certain aspects of identifying performance obligations and licensing implementation guidance. In May 2016, the FASB issued ASU 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients, which relates to disclosures of remaining performance obligations, as well as other amendments to guidance on collectability, non-cash consideration and the presentation of sales and other similar taxes collected from customers. These standards have the same effective date and transition date of January 1, 2018. We currently anticipate adopting the standard electing the full retrospective transition method to restate each prior period presented and plan to adopt this accounting standard in the first quarter of 2018. We are undergoing an initial assessment of the new standard, which includes the review of contracts and revenue channels.

In August 2014, the FASB issued ASU 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, The ASU requires management to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. In doing so, companies will have reduced diversity in the timing and content of footnote disclosures than under today's guidance. We have adopted ASU 2014-15 as of the year ended December 31, 2016. The adoption of the ASU did not have a material impact on our consolidated financial statements and related disclosures.

In July 2015, the FASB issued ASU 2015-11, *Inventory (Topic 330): Simplifying the Measurement of Inventory*. ASU 2015-11 simplifies the guidance on the subsequent measurement of inventory, excluding inventory measured using last-in, first out or the retail inventory method. Under the new standard, in scope inventory should be measured at the lower of cost and net realizable value. The new standard will become effective for us in 2017, with early adoption permitted. The adoption of this guidance does not have a material impact on our consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes*. ASU 2015-17 specifies that deferred tax assets and liabilities shall be classified as noncurrent, or long-term, in a classified statement of financial position. The ASU is effective for public entities for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Earlier application is permitted for all entities as of the beginning of an interim or an annual reporting period. The adoption of this guidance is not expected to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued its new lease accounting guidance. Under the new guidance, ASU 2016-02, Leases, lessor accounting is largely unchanged. The new lease guidance simplifies the accounting for sale and leaseback transactions primarily because lessees must recognize lease assets and lease liabilities. Under the new guidance, lessees will be required to recognize a lease liability, which is a lessor's obligation to make lease payments arising from a lease, measured on a discounted basis; and a right-of-use asset, which is an asset that represents the lessee's right to use, or control use of, a specified asset for the lease term for all leases (with the exception of short-term leases) at the adoption date. The new guidance is effective for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted for any interim or annual financial statements net yet issued. Lessees (for capital and operating leases) and lessors (for

sales-type, direct financing and operating leases) must apply a modified retrospective approach for all leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. We are currently evaluating the impact of this standard on its consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, which simplified several aspects of accounting for stock-based compensation transactions. The areas for simplification in this update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The new guidance is effective for public entities in years beginning after December 15, 2016 and in interim periods within those years. We will adopt this standard in the first quarter of 2017 by recording the cumulative impact of applying this guidance to retained earnings, which is not expected to be material. We will also elect to continue to estimate the number of awards that are expected to vest.

In August 2016, the FASB issued ASU 2016-15 *Statement of Cash Flows (Topic 230), Classification of Certain Cash Receipts and Cash Payments*. ASU 2016-15 provides guidance on the following eight specific cash flow classification issues: (1) debt prepayment or debt extinguishment costs; (2) settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; (3) contingent consideration payments made after a business combination; (4) proceeds from the settlement of insurance claims; (5) proceeds from the settlement of corporate-owned life insurance policies, including bank-owned life insurance policies; (6) distributions received from equity method investees; (7) beneficial interests in securitization transactions; and (8) separately identifiable cash flows and application of the predominance principle. Current GAAP does not include specific guidance on these eight cash flow classification issues. The amendments of this ASU are effective for reporting periods beginning after December 15, 2017, with early adoption permitted. We are currently evaluating the impact of adopting ASU 2014-15 on our consolidated financial statements and related disclosures.

BUSINESS

Overview

We are a medical device company that has pioneered a proprietary minimally invasive surgical implant system to fuse the sacroiliac joint for treatment of common types of sacroiliac joint disorders that cause lower back pain. We introduced our iFuse Implant System, or iFuse, in 2009 in the United States and in 2010 in certain countries in the European Union. Since 2009, more than 25,000 iFuse Procedures have been performed by over 1,300 surgeons, primarily in the United States. Based on our commercial experience and our market research, we believe iFuse is currently used in approximately 70% of minimally invasive surgical fusions of the sacroiliac joint in the United States. During 2015 and 2016, we generated revenue of $41.2 million and $42.1 million, respectively, and our net loss was $28.2 million and $20.6 million, respectively. We expect to continue to incur operating losses in the future.

The two sacroiliac joints connect the sacral bone at the base of the spine with the two iliac bones of the pelvis, and absorb and transmit shock between the legs and the upper body. Patients with sacroiliac joint dysfunction may experience pain that can be debilitating. We believe that the sacroiliac joint is the last major joint to be addressed by the orthopedic implant industry.

Our iFuse Implants are triangular, and three implants are typically used in each procedure. Our implants are made of titanium and are coated with a porous surface using a titanium plasma spray process. Each iFuse Implant is at least three times the strength of a typical eight millimeter surgical screw and the large porous surface area allows fixation of the bone to the implants.

iFuse is supported by published evidence of safety, clinical effectiveness, durability and reduction in opioid users. These benefits are supported by more than 50 peer reviewed papers, including three prospective multi-center studies, two of which were randomized controlled clinical trials.

- INSITE was a randomized controlled study conducted in the United States. Positive 24-month follow-up results were published in August 2016 in the *International Journal of Spine Surgery* showing statistically significant and clinically important reduction in pain and disability. In April 2015, INSITE was awarded the “Best Overall Paper” out of approximately 450 submitted clinical study papers at the International Society for Advancement of Spine Surgery, or ISASS, conference.
- iMIA was a randomized controlled study conducted in Europe. Positive six-month follow-up results were published in *European Spine Journal* in May 2016, and the 12 follow-up results were accepted in March 2017 for publication in *Pain Physician*, showing statistically significant and clinically profound reduction in pain and disability.
- SIFI was a single-arm study conducted in the United States. Positive 24-month follow-up results were published in the *International Journal of Spine Surgery* in April 2016, showing substantial and sustained reduction in pain and disability.

A pooled analysis of these three prospective studies was accepted in February 2017 for publication in *SPINE*, showing consistent and durable reduction in pain and disability, and improvement in quality of life.

- A controlled study that followed patients for up to six years was accepted in February 2017 for publication in *Neurosurgery*, showing that at their last follow up visit 80% of patients who received non-surgical management were using opioids, while only 7% of patients treated with iFuse were using opioids.

The INSITE clinical trial included 148 subjects treated at 19 centers in the United States, with subjects randomized in a two to one ratio to either immediate sacroiliac joint fusion with iFuse or non-surgical management. The study design allowed subjects in the non-surgical management group to cross over and have

surgery after six months. By 24 months after the start of the clinical trial, 89% of the non-surgical management group subjects still participating in the trial had elected to cross over to have the iFuse Procedure. The study's results can be summarized as follows:

- **Reduction in Pain**. There was a statistically significant and clinically important pain reduction in subjects treated with iFuse as compared to those treated with non-surgical management. Subjects surgically treated with iFuse had mean 52, 54 and 55-point reductions in sacroiliac joint pain at 6, 12 and 24 months, respectively, as measured on the 0–100 Visual Analog Scale, or VAS. By contrast, subjects in the non-surgical management group had only a mean 12-point reduction ($p<0.0001$) at six months. In addition, the non-surgical management group subjects who elected after six months to cross over to have the iFuse Procedure had pain reduction similar to that seen in subjects originally assigned to sacroiliac joint fusion with iFuse. At 24 months, the proportion of subjects with a reduction in VAS sacroiliac joint pain of 20 or more points was 83% in the iFuse group and 10% in the non-surgical management group.
- **Reduction in Disability**. There was a statistically significant reduction in disability with iFuse as compared to non-surgical management. Subjects surgically treated with iFuse had a mean 27-point reduction in disability at six months, on the 0–100 Oswestry Disability Index, or ODI, while subjects in the non-surgical management group had only a mean 5-point reduction ($p<0.0001$). At 24 months, the iFuse group had a mean 28-point reduction in ODI. At six months, the proportion of subjects with ODI improvements of at least 15 points was 72.5% and 13.0% in the iFuse and non-surgical management groups, respectively ($p<0.0001$). In addition, the subjects who elected after six months to cross over to have the iFuse Procedure had similar reduction in disability as the subjects originally assigned to sacroiliac joint fusion with iFuse. At 24 months, the proportion of subjects with an ODI improvement of at least 15 points was 68% and 7.5% in the iFuse and non-surgical management groups, respectively ($p<0.0001$).

Patients from this study will be followed for up to five years in a separate long-term study.

A study accepted for publication following patients for up to six years showed that pain relief was maintained for patients treated with iFuse, while patients treated with non-surgical management showed worsening pain over that period. Moreover, the cumulative four-year revision rate with iFuse, an important clinical outcome, is approximately 3.6%, or one-third of the reported revision rate of lumbar, or lower back, fusion.

Market

Over 30 million Americans experience lower back pain at any given time, according to *The New England Journal of Medicine.* Published clinical studies have shown that 15% to 30% of all lower back pain is associated with the sacroiliac joint. Our experience in both clinical trials and commercial settings indicates that iFuse could be beneficial to at least 30% of patients who visit trained healthcare providers and are screened for exclusion and inclusion criteria. Based on our market experience and internal estimates, we believe that 10% of Americans that experience lower back pain related to the sacroiliac joint are potential candidates for the iFuse Procedure. Accordingly, we estimate that the potential market for iFuse in the United States would be 465,000 patients annually.

Studies have also shown that the disability from disease of the sacroiliac joint is comparable to the disability associated with a number of other serious orthopedic conditions (for example, knee and hip arthritis, narrowing of the spinal canal, or spinal stenosis, and degenerative disc disease), all of which have surgical solutions where an implant is used and a significant market exists. For example, there are a large number of lumbar fusions to treat lower back pain in the United States.

Frequently, sacroiliac joint patients have experienced one of the following events that have caused disruption or degeneration of the sacroiliac joint: falls, previous lumbar surgery, automobile accidents, and/or pregnancies. We believe that Americans spend approximately $85.9 billion per year on spine problems and that approximately 65% of people who suffer from sacroiliac pain are women. In the United States, iFuse is intended for sacroiliac joint fusion for conditions including sacroiliac joint dysfunction that is a direct result of sacroiliac joint disruption and degenerative sacroiliitis. This includes conditions whose symptoms began during pregnancy or in the peripartum period and have persisted postpartum for more than six months. In all other countries where iFuse is available commercially, the system is indicated for sacroiliac joint fusion.

Diagnosis

It is often difficult to identify the source of lower back pain. As a result, some surgical procedures performed on the spine have a sub-optimal success rate. For example, published studies of lumbar fusion have shown success rates of only approximately 60%. Unsuccessful spine surgery may result in failed back surgery syndrome, which has been shown to result in high healthcare costs with poor overall relief of pain. We believe low success rates of lumbar fusion are likely related to failure, in some cases, to diagnose the sacroiliac joint as the correct cause of pain.

In addition to training surgeons to perform the iFuse Procedure, we have made considerable investments in teaching healthcare professionals to accurately diagnose sacroiliac joint disorders. We provide instruction and training on how to perform provocative maneuvers in a physician's office that can reveal the sacroiliac joint as the source of pain. If provocative tests are positive, surgeons confirm the diagnosis by injecting a small amount of local anesthetic into the joint under fluoroscopic guidance. If the local anesthetic produces immediate pain reduction, it confirms that the sacroiliac joint is the source of the pain. In addition to the differentiated characteristics of our iFuse Procedure and implants, we believe that more accurate diagnosis is part of the reason for the high success rate of iFuse. As is customary in the orthopedic implant industry, a member of our team is typically present in the operating suite during surgery to provide technical assistance for the use of iFuse.

Surgical Treatment of Sacroiliac Joint Disease

Patients with sacroiliac joint dysfunction frequently experience significant pain simply from sitting, standing, or rolling over in bed. The pain can be exacerbated with activity—when a patient walks or runs, for example, the shock from each step is transmitted up the leg to the iliac bones of the pelvis. This results in small movements of the sacroiliac joints and pressure transferred across the joints. The initial goal in fusion of the sacroiliac joint is to immediately stabilize the joint because the movement of the damaged or arthritic joint is believed to cause the pain. After the joint has been stabilized, the goal is to permanently fuse the joint over time.

Surgical fusion of the sacroiliac joint with an open surgical technique was first reported in 1908; further reports were described in the 1920s. The open procedure uses plates and screws, is extremely invasive, and involves greater blood loss and longer recovery time when compared to the iFuse minimally invasive procedure. Open surgery for elective sacroiliac joint fusion has become less common in the United States since we introduced iFuse. The table below highlights some of the key differences between the iFuse Procedure and open surgery.

	Fusion with Open Surgery	iFuse Procedure
Size of incision	6 to 12 inches	1 to 2 inches
Average hospital stay	5.1 nights	1.3 nights
Average blood loss	800 ml	33 ml

Due to its invasiveness, pain, long recovery time, and infrequent use, the open fusion procedure was rarely taught in medical school or residency programs. Prior to our launch of iFuse, most spine surgeons had never performed a sacroiliac joint fusion. As a result, when patients presented with lower back pain, spine surgeons often did not include a sacroiliac joint evaluation in their diagnostic work-up.

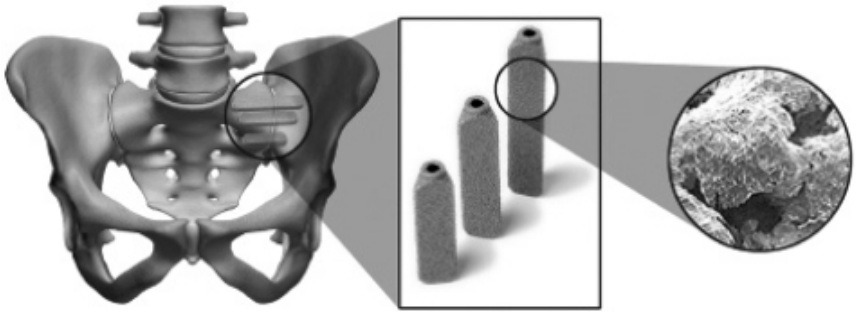
Non-Surgical Treatment of Sacroiliac Joint Disease

Although a number of non-surgical treatments exist for sacroiliac joint pain, they did not provide the level of pain or disability relief seen with the iFuse Procedure for the patients participating in the INSITE study.

- **Medical therapy**, including opiates and non-steroidal anti-inflammatory medications.
- **Physical Therapy**, which can involve exercises as well as massage.
- **Intra-articular injections of steroid medications**, which are typically performed by physicians who specialize in pain treatment or anesthesia.
- **Radiofrequency ablation**, or the cauterizing, of the lateral branches of the sacral nerve roots.

Our Solution—iFuse

Our iFuse system is designed to address the shortcomings of alternative treatments, including open surgery, non-surgical management, and screw-based procedures. As shown in the graphic below, our iFuse Implants are triangular, and three implants are typically used in each procedure. Our implants are made of titanium and are coated with a porous surface using a titanium plasma spray process. Each iFuse Implant is at least three times the strength of a typical eight millimeter surgical screw and the large porous surface area allows fixation of the bone to the implants.



The iFuse Procedure is performed under general anesthesia and involves an incision approximately one to two inches in length. The surgeon uses a custom instrument set we provide to prepare a triangular channel across the sacroiliac joint for each implant. An iFuse Implant is then pressed into a triangular channel, which is slightly smaller than the implant, creating what is known as an intereference fit. The triangular shape of our iFuse Implants, as shown above, prevents them from rotating. Our iFuse Implants have more than 30 times the rotation resistance of screws based on a study we sponsored. iFuse Implants cross the sacroiliac joint and provide stability, which is why we believe pain diminishes soon after the iFuse Procedure. We have issued patents on implants with cross-sections of different shapes, including the triangular shape we use for iFuse. We also have issued patents for the method of placing those implants for applications across the sacroiliac joint, as well as other parts of the spine and pelvis.

By contrast, open fusion of the sacroiliac joint, as well as the minimally invasive solutions offered by other companies typically use screws and/or plates for fixation. When placed across the sacroiliac joint, standard orthopedic screws, with no features to encourage biologic fixation, have an exhibited propensity to rotate and loosen over time. Because of the triangular shape, porous coating, strength, and other differentiating factors of our iFuse Implants, we believe that our published clinical data does not apply to other minimally invasive solutions, for which little published evidence of safety, clinical effectiveness, durability, or economic utility currently exists. We are unaware of any data to show that our competitors' sacroiliac joint screws, with features allowing biologic fixation, have a lower rate of loosening than standard orthopedic screws. In addition, placement of plates for open fusion procedures typically requires larger incisions and more invasive dissection, which results in longer recovery times and increased morbidity.

Surgical revision is an important outcome for patients. A recent single site retrospective study published in the *International Journal of Spine Surgery* showed a cumulative revision rate of more than 30% at four years for screw-based treatment of sacroiliac joint pain (based on 38 cases) and a revision rate of less than 6% for iFuse (based on 274 cases). Based on an extensive review of the published medical literature before that study, private payors HCSC, Geisinger and SelectHealth Medical Technology Assessment Committees determined that coverage of minimally invasive (MIS) sacroiliac joint fusion specific to iFuse was appropriate as the literature related to other MIS sacroiliac joint fusion systems was inadequate to determine safety and effectiveness. Use of all other technologies is considered experimental/investigational or unproven and therefore not covered.

Our implants cross the sacroiliac joint and provide stability, which is why we believe pain diminishes soon after the iFuse Procedure. Typically, surgeons recommend protected weight-bearing for three weeks. However, post-operative instructions are patient-specific and some patients are allowed to perform weight-bearing activities sooner. Follow-up studies have shown that bony bridging across the sacroiliac joint is still present five years after the iFuse Procedure.

Three implants are used in most iFuse Procedures. Each implant bridges across the joint from the iliac bone to the sacrum. Placing each implant requires four basic steps:

- **Pin**. The surgeon inserts a guide pin through the iliac bone, across the sacroiliac joint and into the sacrum.
- **Drill**. Surgeons drill over the guide pin, through the iliac bone, across the sacroiliac joint and just into the sacrum. This step is optional if using the sharp-tip broach.
- **Broach**. The surgeon impacts a triangular broach over the pin which prepares a triangular channel that is slightly smaller than the iFuse Implant.
- **Implant**. The surgeon impacts the implant into the triangular channel thereby spanning the sacroiliac joint and docking in the sacrum. The channel is slightly smaller than the implant, which produces an interference fit.

iFuse is a cannulated system, which means that the drill, broach and implants have hollow channels which fit over the pin for guidance purposes. As is typical across the orthopedic implant industry, a member of our team is normally present in the operating suite during surgery to provide technical assistance for the use of iFuse.

We currently offer three custom instrument sets for placement of iFuse Implants in the body. The standard set is comprised of largely stainless steel materials; the XL (Extra Long) set is the same as the standard set but most instruments are elongated by three inches for treatment of larger patients; and the radiolucent set is comprised of instruments made with more radiolucent materials, such as PEEK and aluminum to improve visualization under fluoroscopy during an iFuse Procedure.

Our Strategy

Our objective is to maintain and enhance our leadership position in providing clinically proven products and training for minimally invasive sacroiliac joint fusion and provide relief for as many patients as possible. To accomplish this objective, we intend to:

- Continue to educate physicians, payors, and patients globally about the growing body of compelling evidence supporting the safety, clinical effectiveness, durability and reduction in opioid use associated with the iFuse Procedure;
- Increase reimbursement coverage based on our evidence of safety, clinical effectiveness, durability and reduction in opioid use;
- Continue to invest in iFuse awareness, surgeon training, new products, and additional clinical and economic studies;

- Educate and train the healthcare community on the prevalence, anatomy, diagnosis, and treatment options, including minimally invasive surgical fusion of the sacroiliac joint;
- Expand our direct field organization in the United States and select European countries to drive adoption of our iFuse products;
- Maintain our technological leadership by investing in the creation of new or improved products for sacroiliac joint surgery and obtain domestic and international regulatory clearance to market them in the United States and additional countries; and
- Continue to grow and defend our existing intellectual property portfolio.

Our Published Studies

iFuse is the only minimally invasive product for sacroiliac joint fusion commercially available in the United States that, to our knowledge, is supported by published evidence of safety, clinical effectiveness, durability, and economic utility. These benefits are supported by more than 50 published papers (22 of which we financially supported), including a prospective, randomized controlled multi-center clinical trial referred to as "INSITE" and a prospective multi-center clinical study referred to as "SIFI." INSITE six-month follow-up results were published in March 2015 in the *International Journal of Spine Surgery*, and 12-month follow-up results have been accepted for publication by *Neurosurgery*. SIFI six-month follow-up results were published in *Medical Devices—Evidence and Research* in December 2013, and 12-month follow-up results were published in August 2015 in the *Global Spine Journal*. These results demonstrate clinically important and statistically significant improvement for sacroiliac joint pain, disability due to lower back pain, quality of life, and patient satisfaction. Moreover, the level of published evidence supporting the safety and effectiveness of sacroiliac joint fusion using iFuse is high. The INSITE study was awarded the Leon L. Wiltse Award for Best Overall Paper (out of approximately 450 submitted abstracts) by the ISASS meeting program committee.

In the United States, iFuse is intended for sacroiliac joint fusion for conditions including sacroiliac joint dysfunction that is a direct result of sacroiliac joint disruption and degenerative sacroiliitis. This includes conditions whose symptoms began during pregnancy or in the peripartum period and have persisted postpartum for more than six months. Clinical Studies have demonstrated that treatment with iFuse improved pain, patient function, and quality of life. In all other countries where iFuse is available commercially, the system is indicated for sacroiliac joint fusion. The published studies summarized below include clinical outcome information. We have not yet cleared claims for use of iFuse to reduce pain, reduce disability, improve quality of life, or other clinical outcome claims without reference to published papers. We financially supported the studies described below.

INSITE Study Design

INSITE enrollment took place between January 2013 and May 2014 at 19 sites in the United States. Adults between 21 and 70 years old were eligible to participate if they had a confirmed diagnosis of sacroiliac dysfunction due to degenerative sacroiliitis and/or sacroiliac joint disruption. Diagnosis was based on the subject's history, provocative tests performed in the surgeon's office, and at least a 50% decrease in sacroiliac joint pain 30 to 60 minutes after local anesthetic was injected into the joint under image guidance. Eligibility required a sacroiliac VAS pain score of at least 50, where zero represents no pain and 100 represents the worst pain imaginable, as well as a baseline ODI score of at least 30, which has a scale of 0-100, where zero represents no disability and scores greater than 60 represent very severe disability.

Exclusion criteria included inability to diagnose pain related to the sacroiliac joint, sacroiliac joint pain due to inflammatory conditions, severe back pain deemed to be due primarily to other causes, history of recent major trauma to the pelvis, metabolic bone disease, or any condition that made treatment with the study devices infeasible or interfered with the ability to participate in physical therapy. Subjects involved in litigation, on

disability leave, or receiving workers' compensation related to their back or sacroiliac joint pain were also excluded. Subjects were randomly assigned to sacroiliac joint fusion or non-surgical management in a two to one ratio. After six months of follow-up, subjects could elect to receive sacroiliac joint fusion surgery using iFuse. All of the subjects who were randomized to non-surgical management completed at least six months of follow up before electing to cross over to surgery.

Subjects assigned to non-surgical management began non-surgical management immediately. Non-surgical management consisted of four components: 1) management of pain with medication, including narcotics; 2) physical therapy; 3) steroid injections in the sacroiliac joint; and 4) radiofrequency ablation of local nerves. Physical therapy followed American Physical Therapy Association, or APTA, guidelines. Not all non-surgical management interventions were provided to all non-surgical management subjects. Non-surgical management interventions were provided serially, typically in order of increasing invasiveness, according to individual needs.

Baseline assessments included medical history and physical examination. Subjects were scheduled for follow-up at one, three, six, 12, 18, and 24 months after enrollment. At each follow-up, the subjects evaluated their pain and disability by completing questionnaires to assess pain and disability.

A high-resolution pelvic CT scan was performed at the 24-month follow up for those subjects randomized to and treated with iFuse. The primary purpose of the CT scan is to judge the adherence of bone onto the implants on both the sacral and iliac sides of the sacroiliac joint and to determine whether there is bone bridging across the joint. Other radiographic endpoints were assessed as well.

The study required that subjects receive only the assigned treatment to month six. After six months, the study allowed subjects assigned to non-surgical treatment to cross over to surgery. Cross over was allowed because the anticipated success rate for non-surgical management was low, and many subjects would not have participated without the ability to cross over to surgical care within the study. One-hundred percent of subjects who crossed over to iFuse in the study did so after their six-month visit was complete in compliance with the design of the study. Nearly 90% of non-surgical management subjects still participating at month 6 crossed over to surgical care after six months. All subjects who crossed over had sacroiliac joint fusion using iFuse and were subsequently evaluated with follow-up visits.

The primary endpoint was a composite success or failure endpoint. Success was defined as reduction from baseline VAS sacroiliac joint pain by at least 20 points, absence of device-related serious adverse events, absence of neurological worsening related to the sacral spine, and absence of surgical re-intervention (removal, revision, reoperation, or supplemental fixation) for sacroiliac joint pain. Secondary endpoints included improvement from baseline in VAS, ODI, as well as treatment satisfaction and other criteria. Other important measures included quality of life assessments.

In the study, 442 subjects at 19 centers were screened for participation, of which 148 were enrolled and treated. Mean subject age was 51 years and 18 (12%) were 65 years of age or older. Most subjects (94.6%) were Caucasian and approximately two-thirds were female.

Enrolled subjects were highly debilitated by sacroiliac joint pain as indicated by high baseline VAS scores (mean 82.3) and ODI scores (mean 56.8). Nineteen percent were not working due to chronic pain. The duration of pain prior to enrollment averaged 6.4 years (range 0.5 to 40.7 years), and 87.2% had had pain for more than one year and 73.6% had pain for more than two years.

Trial subjects had previously undergone sacroiliac-specific physical therapy (72.3% of subjects), sacroiliac steroid injections (85.8%) and radiofrequency ablation of the sacroiliac joint (16.2%). Approximately two-thirds were taking opioid pain medications at baseline and all reported that multiple activities commonly caused or worsened their sacroiliac joint pain.

Follow-up was excellent with 96% of non-surgical subjects having 6-month follow-up and 87% of sacroiliac joint fusion patients having 24-month follow-up.

All subjects assigned to sacroiliac joint fusion underwent the procedure. Of the subjects assigned to surgery, 76 had the iFuse Procedure on one sacroiliac joint, while 26 underwent the procedure on both sacroiliac joints. Mean procedure time was 45 minutes (range 14 to 140 minutes). Mean estimated blood loss was 33 ml (range 0.5 to 250 ml). Three implants were used in 91.2% of cases and most implants were seven millimeters in diameter. The hospital length of stay ranged from zero to seven days, and 97.1% were discharged in two days or less.

Of the 46 subjects assigned to non-surgical management:

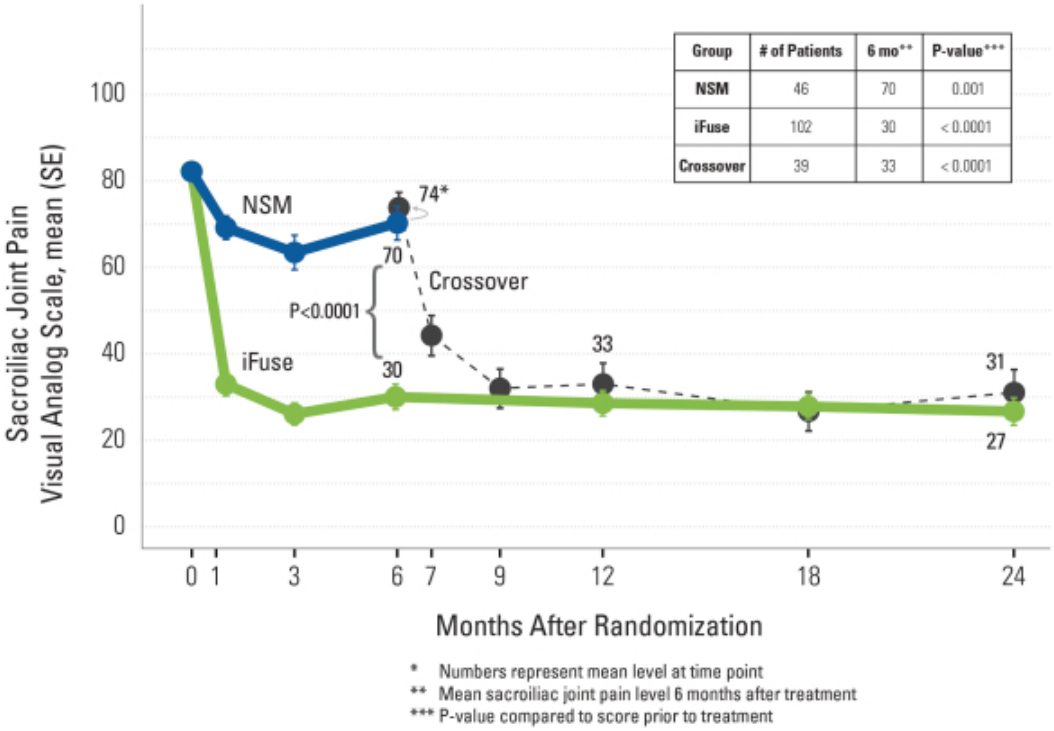
- All but one received physical therapy during the six months after treatment assignment;
- 73.9% underwent at least one steroid injection;
- 45.7% underwent radiofrequency ablation of the sacroiliac joint; and
- 87.0% underwent at least two types of non-surgical management treatments in addition to pain medications.

The above data suggests that the intensity of non-surgical management interventions was high and representative of that provided in standard clinical practice.

INSITE Results

INSITE results can be summarized as follows.

- **Reduction in Pain**. There was a statistically significant and clinically important pain reduction in subjects treated with iFuse as compared to non-surgical management. As shown in the graph below, subjects surgically treated with iFuse had a mean 52-point VAS reduction in sacroiliac joint pain at six months. The reduction in pain was sustained with a mean 55-point reduction in sacroiliac joint pain observed at 24 months. By contrast, subjects in the non-surgical management group had only a mean 12-point reduction ($p<0.0001$) at six months. In addition, the non-surgical management group subjects who elected after six months to cross over to have the iFuse Procedure had pain reduction similar to that seen in subjects originally assigned to sacroiliac joint fusion with iFuse. At 24 months, the proportion of subjects with a reduction in VAS sacroiliac joint pain of 20 or more points was 83% in the iFuse group and 10% in the non-surgical management group.

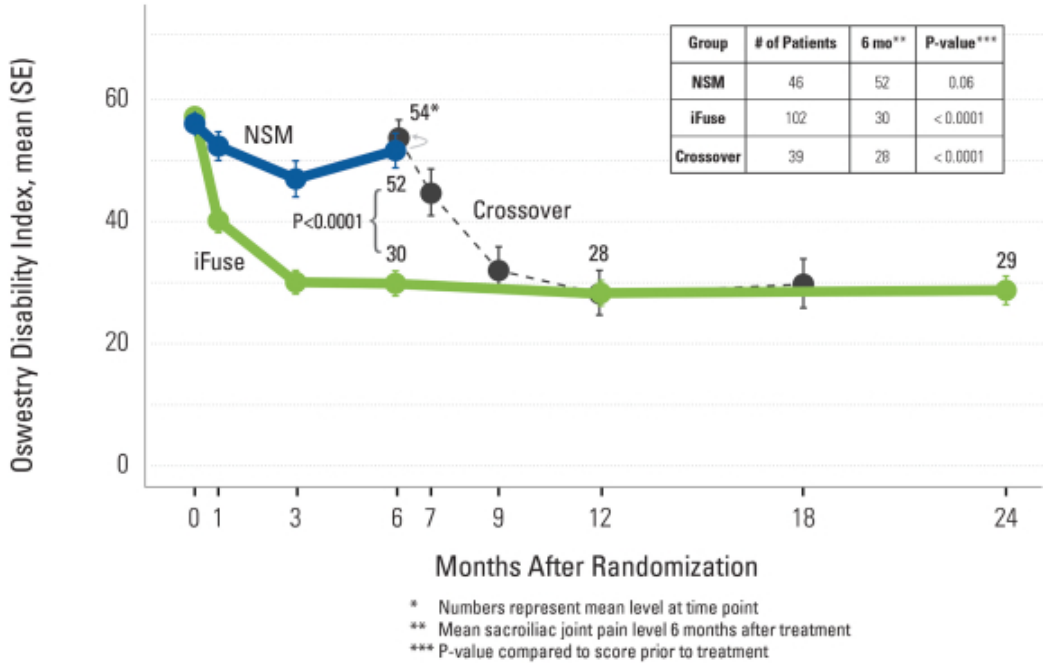


Subjects who elected not to cross over to surgery had reduced pain at six months, but their pain worsened somewhat over time. In contrast, the non-surgical management group subjects who elected to cross over to have the iFuse Procedure had pain reduction similar to that seen in subjects originally assigned to sacroiliac joint fusion with iFuse. These clinically important differences show the effectiveness of sacroiliac joint fusion with iFuse.

- **Reduction in Disability**. There was a statistically significant reduction in disability with iFuse as compared to non-surgical management. As shown in the graph below, subjects surgically treated with iFuse had a mean 27-point ODI reduction in disability at six months, while subjects in the non-surgical management group had only a mean 4.6-point decrease ($p<0.0001$). At 24 months, the iFuse group had a mean 28-point reduction in disability. At six months, the proportion of subjects with ODI improvements of at least 15 points was 72.5% and 13.0% in the iFuse and non-surgical

management groups, respectively. At 24 months, the proportion of subjects with an improvement of at least 15 points due to the assigned treatment was 68.2% and 7.5% in the iFuse and non-surgical management groups, respectively (p<0.0001).

As shown in the figure below, the subjects who elected after six months to cross over to have the iFuse Procedure had similar reduction in disability as the subjects originally assigned to sacroiliac joint fusion with iFuse. These clinically important differences show the effectiveness of sacroiliac joint fusion with iFuse.



Patient Satisfaction

Patient satisfaction was assessed by asking subjects whether they were very satisfied, somewhat satisfied, somewhat dissatisfied or very dissatisfied with the treatment received. At six months, 77.2% of subjects who had received the iFuse Procedure were very satisfied, compared with 27.3% of subjects in the non-surgical management group. At six months, 79.2% of surgery subjects said they would definitely have the procedure again. These results are consistent with the satisfaction results from other studies, covering approximately 500 subjects. Satisfaction rates were high, with 73% reporting being very satisfied with sacroiliac joint treatment by month 24 and 71% indicated they would have the procedure again.

Adverse Events

During the first six months, the mean number of adverse events per subject was slightly higher in the surgery group (1.3 events) as compared to the non-surgical management group (1.1 events, p=0.3063). The most common adverse event related to our implant was leg pain resulting from misplacement of the implant, resulting in impingement of the implant on a lumbar spine nerve root. The most common adverse event for our implant procedure has been minor wound infections. None of these adverse events required surgical treatment. The following table shows the number and percentages of subjects who had adverse events related to the iFuse device and the iFuse Procedure.

	Non-Surgical Management (n=46) N (%*)	Sacroiliac Joint Fusion (n=102) N (%)
Category		
Related to iFuse Implant		
Definitely related	—	2 (2.0%)
Probably related	—	1 (1.0%)
Total	—	3 (2.9%)
Related to non-surgical management or iFuse Procedure**	3 (6.5%)	6 (5.9%)
Definitely related	1 (2.2%)	10 (9.8%)
Probably related	4 (8.7%)	16 (15.7%)
Total		

* Percent reported as number of events divided by number assigned to treatment.
** Events from first 180 days shown.

In summary, we believe the INSITE study, a prospective, randomized controlled multi-center clinical trial, provided substantial evidence of the clinically important and statistically significant effectiveness of sacroiliac joint fusion using iFuse compared with non-surgical management. Further, the fact that subjects who crossed over responded, as well as those who were originally assigned to the iFuse group, adds significantly to the trial's validity and importance.

iMIA European Clinical Trial

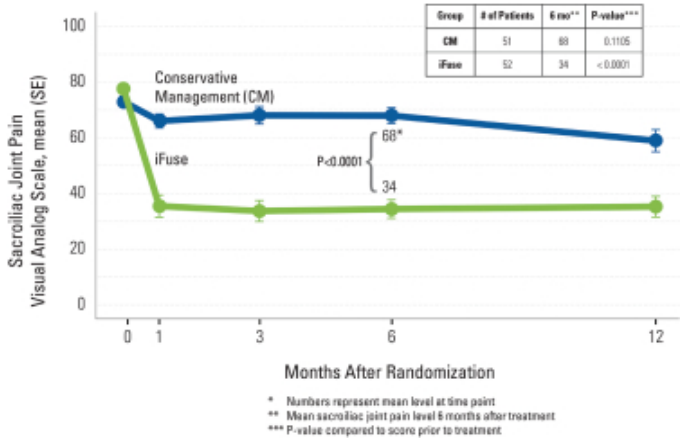
iMIA is a second prospective, randomized clinical trial of sacroiliac joint fusion using iFuse compared to non-surgical management with a design very similar to that of INSITE. iMIA enrolled and treated 103 subjects at nine sites in four European countries. The trial's six-month results were published in European Spine Journal in May 2016.

In iMIA, 103 adults with chronic sacroiliac joint pain at nine sites in four European countries were randomly assigned approximately one-to-one to either immediate sacroiliac joint fusion with iFuse or conservative management. Conservative management was performed according to the European guidelines for the diagnosis and management of pelvic girdle pain and consisted of optimization of medical therapy, individualized physical therapy and adequate information and reassurance as part of a multifactorial treatment.

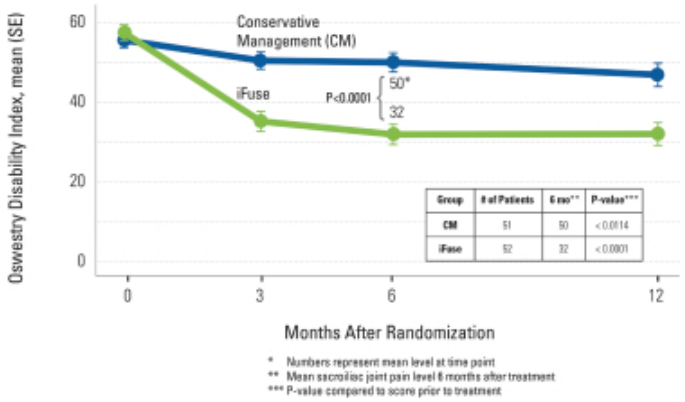
At twelve months, which is as far out as data is currently available, mean low back pain improved by 41.6 points in the surgically treated group and 14.0 points in the conservative management group (difference of 27.6 points, p<0.0001). Mean ODI improved by 25.0 points in the surgical group and 8.7 points in the conservative management group (p<0.0001).

Adverse events occurred at a low rate and the frequency of adverse events did not differ between groups. One case of postoperative nerve impingement occurred in the surgical group, which was resolved by repositioning the implant.

The figure below shows mean VAS pain scores at baseline and throughout follow-up. The results show clinically profound, rapid and sustained reduction in pain following treatment with iFuse, in contrast with conservative management.



The figure below shows mean ODI scores at baseline and throughout follow-up. The results shows clinically profound, rapid and sustained reduction in disability following treatment with iFuse, in contrast with conservative management.



SIFI Clinical Trial

Sacroiliac Joint Fusion with iFuse Implant System, or SIFI, was a prospective, multicenter single-arm clinical trial. Eligibility criteria and endpoints were similar to INSITE. A manuscript summarizing two-year results was published in *International Journal of Spine Surgery* in April 2016.

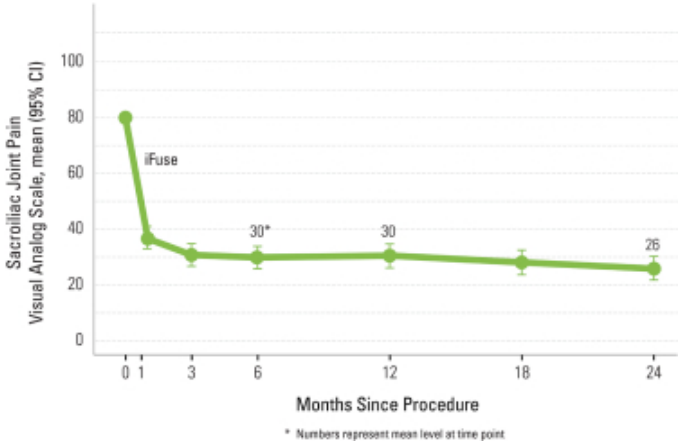
All of the 172 enrolled subjects received the iFuse Procedure at 26 sites between August 2012 and December 2013. All enrolled subjects were included in statistical analysis. Mean subject age was 51 years and 96.5% subjects were Caucasian and approximately 70% were female. Follow-up rates at month 6, 12 and 24 were 97%, 91% and 87%, respectively.

Baseline sacroiliac pain and disability scores were high. The mean baseline VAS score was 79.8, while the mean baseline ODI score was 55.2. The mean duration of pain prior to enrollment was five years (range 0.4 to 41 years), and 84.3% had had pain for more than one year and 64.5% had had pain for more than two years.

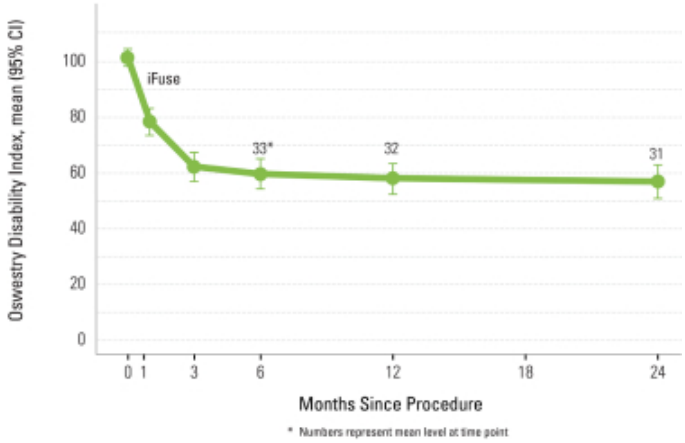
Seventy-six percent were taking opioid pain medications at baseline and all reported that multiple activities commonly caused their sacroiliac joint pain. Many subjects (44.2%) had a history of prior lumbar fusion, and concomitant spine disease was common. Sacroiliac joint pain persisted despite prior treatments with physical therapy (64.5% of subjects), sacroiliac joint steroid injections (94.2%) and prior radiofrequency ablation of the joint (15.7%).

Hospital length of stay ranged from zero to seven days, and 95.3% were discharged in two days or less. Prolonged hospital stays were related to subject comorbidities, not procedure-related adverse events.

The figure below shows mean VAS pain scores at baseline and throughout follow-up. The results show clinically important, rapid and sustained reduction in pain across the subject population.



The figure below shows the ODI scores at baseline and throughout the study. The results show clinically important and sustained reduction in disability across the subject population.



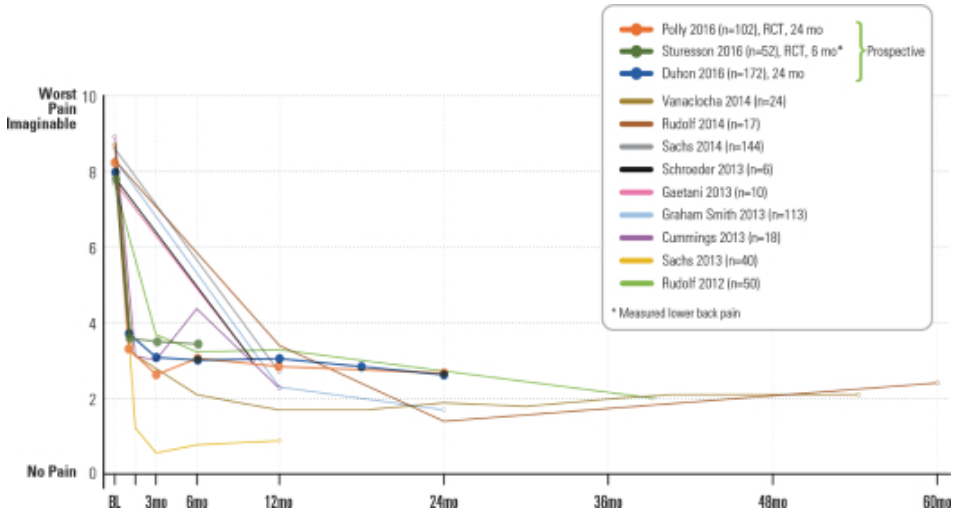
Satisfaction rates were high, with 78.1% reporting being very satisfied with sacroiliac joint treatment by month 24 and 93.8% being very or somewhat satisfied. 74.7% indicated they would definitely have the procedure again; 88.4% indicated they would probably or definitely have the procedure again.

Four adverse events (2.4% of all subjects) were rated by the investigator to be definitely device-related and 3 (1.8%) were probably device-related. Pain related to implant impingement on sacral nerve roots occurred in 3 cases (including one non-study-related side), all of which resolved with immediate repositioning of implants. In 4 cases, sacroiliac joint or hip pain was attributed to the presence were an implant or bone growth around the implant. Twenty-six events were rated as probably or definitely related to the placement procedure. The most common events were wound infection, irritation or drainage, sacroiliac joint pain related to implant malposition (described above), and recurrent sacroiliac joint pain related to inadequate device placement. One subject had a deep wound infection that required surgical debridement.

Additional Published Clinical Studies

We have demonstrated the long-term durability of pain relief resulting from treatment with iFuse in several other published studies. A study published in the *Open Orthopedics Journal* in 2014, which we financially supported, showed that significant clinical pain relief observed at 12 months was maintained for five years. Similar results with four and one-half year follow-up were published in the *Journal of Spine* in 2014.

All of the iFuse studies published as of August 2016 report sacroiliac joint pain using the VAS pain scale are in the graph below. We financially supported nine of these twelve clinical studies.



To date, several studies not sponsored by SI-BONE have been published on the safety and effectiveness of sacroiliac joint fusion using iFuse. These are prospective or retrospective, single site or multi-site, and U.S.- or Europe-based. These clinical studies demonstrate the iFuse Procedure to be safe and effective. These studies demonstrate pain reduction and/or ODI improvement that is statistically significant and clinically important. The type and rate of reported adverse events were similar to those reported in INSITE and SIFI. These additional studies are consistent with the results of INSITE and SIFI.

A study accepted in February 2017 for publication in *Neurosurgery* shows the impact of non-coverage by the healthcare system of sacroiliac joint fusion. In this study, a neurosurgeon reports the clinical experience of 423 patients seen in his clinic for sacroiliac joint pain. While many patients' pain resolved without intervention, 152 of the patients (36%) had continued sacroiliac joint pain. Of these patients, 74 did not have access to the procedure due to their insurers' denial of coverage and instead were forced to undergo continued non-surgical treatment. Of the remaining 78 patients, 51 underwent radiofrequency ablation of lateral branches of sacral nerve roots and 27 underwent sacroiliac joint fusion with the iFuse Implant System.

The group treated non-surgically had poor outcomes, including increased pain, disability and opioid use, as well as worsened work status. By contrast, patients who were able to undergo the iFuse Procedure had very large improvements in pain and disability, improved work status and substantially decreased opioid use (from 63% at baseline to 7% at last follow-up). The differences in all outcomes (pain, disability, work status and opioid use) were both statistically significant and clinically profound.

There are several important aspects to this study:

- It can be considered a "pseudorandomized trial" in that insurance denials (which dictated which treatment the patient could receive) was not clearly related to any important predictor of clinical outcomes. This enhances the comparability of groups.

- It is the longest reported cohort of non-surgical treatment of sacroiliac joint pain published to date.
- Non-surgical treatment was clearly associated with poor outcomes, consistent with our experience in the US, in which patients receive repeated, and sometimes expensive, non-surgical treatments but do not derive significant benefit.

Coverage and Reimbursement

In the United States, the primary purchasers of iFuse products are inpatient and outpatient healthcare facilities. These purchasers bill various third-party payors such as Medicare, Medicaid, private commercial insurance companies, health maintenance organizations, accountable care organizations, or ACOs, and other healthcare-related organizations, to cover all or a portion of the costs and fees associated with iFuse, and bill patients for any applicable deductibles or co-payments.

Medicare reimbursement rates for the iFuse Procedure vary due to geographic location, the nature of facility in which the procedure is performed and other factors. Although private payor coverage policies and reimbursement rates tend to vary, the Medicare program is commonly used as a model for how private payors and other governmental payors develop their coverage and reimbursement policies for healthcare items and services, including iFuse Procedures.

In the United States, the American Medical Association, or AMA, generally assigns specific billing codes for surgical procedures under a coding system known as Current Procedure Terminology, or CPT, which we and our customers must use to bill and receive reimbursement for our iFuse Procedure. Once the CPT code is established, the Centers for Medicare & Medicaid Services, or CMS, establishes payment levels and coverage rules under Medicare while private payors establish rates and coverage rules independently.

Prior to our launch of iFuse, Medicare and most private insurance companies reimbursed surgeons for sacroiliac joint fusions using either an established Category I CPT code or an unlisted code. A Category I CPT code is typically assigned to procedures that are consistent with contemporary medical practice and are widely performed. Procedures with a longstanding Category I CPT code are usually reimbursed.

However, effective July 1, 2013, the AMA's CPT Editorial Panel created a new Category III CPT code for fusion of the sacroiliac joint using a minimally invasive or percutaneous approach. Category III CPT codes are used for new and emerging technologies and are reimbursed sporadically. This new code functionally redefined coding for sacroiliac joint fusions because it meant that minimally invasive or percutaneous fusion procedures should not be billed using the general Category I CPT code for sacroiliac fusion surgery. This coding change was accompanied by the establishment of a Medicare hospital outpatient prospective payment rate for the new code.

Following the creation of the new Category III CPT code, a number of papers demonstrating the clinical success of the iFuse Procedure were published. These studies, along with the support of several professional societies and surgeons resulted in the AMA CPT Editorial Panel establishing a new Category I CPT code specifically for sacroiliac joint fusion surgery using a minimally invasive or percutaneous approach. This new Category I CPT code became effective on January 1, 2015.

Subsequently, in March 2015, our INSITE prospective, randomized controlled multi-center clinical trial was published. In June 2015, the largest spine society in the world, the North American Spine Society, or NASS, published a positive coverage recommendation, based on the clinical evidence, advocating to insurance companies and Medicare Administrative Contractors, or MACs, that sacroiliac joint fusion using a minimally invasive surgical approach should be routinely reimbursed. In March 2015, the International Society For Advancement of Spine Surgery, or ISASS, also published a similar positive advocacy document intended to encourage insurance companies in the United States to reimburse for the procedure.

Coverage decisions for this code are made independently by each of the private insurance companies and the eight MACs, and the process of obtaining coverage is laborious. As of June 30, 2016, because of the iFuse clinical evidence, all eight MACs were covering the procedure. As of March 2017, eight of the largest 50 private payors were covering the iFuse Procedure regularly, while the vast majority of private payors were evaluating their coverage policies. In addition, because of the iFuse clinical evidence, the private payors, HCSC, Geisinger and SelectHealth, have issued positive coverage policies for iFuse while specifically excluding coverage for any competitive products. Beginning in the fourth quarter of 2016, the increasing coverage, combined with our sales and marketing efforts, has led to an increase in the number of procedures and a return to revenue growth.

Outside the United States, reimbursement levels vary significantly by country, and by region within some countries. Reimbursement is obtained from a variety of sources, including government-sponsored and private health insurance plans, and combinations of both. Some countries will require us to gather additional clinical data before recognizing and granting broader coverage and reimbursement for our products. It is our intent to complete the requisite clinical studies and obtain coverage and reimbursement approval beyond what we have today in countries where it makes economic sense to do so.

Third-party payors, whether foreign or domestic, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In addition, in the United States, no uniform policy of coverage and reimbursement for medical device products and services exists among third-party payors. Therefore, coverage and reimbursement for medical device products and services can differ significantly from payor to payor. In addition, payors continually review new technologies for possible coverage and can, without notice, deny coverage for these new products and procedures. As a result, the coverage determination process is often a time-consuming and costly process that requires us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained, or maintained if obtained.

In addition to uncertainties surrounding coverage policies, there are periodic changes to reimbursement. Third-party payors regularly update reimbursement amounts and also from time to time revise the methodologies used to determine reimbursement amounts. This includes annual updates to payments to physicians, hospitals, and ambulatory surgical centers for procedures during which our products are used. An example of payment updates is the Medicare program’s updates to hospital and physician payments, which are done on an annual basis using a prescribed statutory formula.

Private Payors. Private payors also decide whether to cover and how much to pay on an individual basis. We target and track 50 of the largest private payors that cover over 200 million lives in the United States as of December 31, 2016. As of March 2017, eight large private payors are covering the procedure regularly on a case-by-case basis or have issued formal positive written coverage policies, while 42 do not cover the procedure. In most cases, the payors who are not covering are re-evaluating coverage based on the new Category I CPT code, the INSITE study and other clinical evidence, and the recommendations of NASS and ISASS. Many payors will only review their coverage policies for a particular procedure on a scheduled basis, which can be every few months or as infrequently as once per year.

The table below shows the ten largest private payors in the United States, their approximate number of covered lives as of December 31, 2016, and their status regarding reimbursement coverage as of December 31, 2016:

Rank	Health Plan	Enrollment	Coverage Status
1	United Healthcare	48 million	Case-by-case coverage
2	Anthem (WellPoint)	34 million	Non-coverage
3	Aetna	20 million	Non-coverage
4	Health Care Service Corporation	15 million	Positive coverage**
5	Cigna	14 million	Non-coverage
6	Humana	10 million	Non-coverage
7	Kaiser	10 million	Case-by-case coverage*
8	Health Net	6 million	Non-coverage
9	Independence BC	6 million	Non-coverage
10	Highmark BCBS	5 million	Non-coverage

* For plans representing approximately 8 million covered lives.
** Effective January 1, 2017, HCSC began covering minimally invasive sacroiliac joint fusion using iFuse exclusively.

While we believe the increased coverage described above will have a positive effect on the number of iFuse Procedures and our associated revenue in the future, the effect likely will happen with a lag time: after a positive coverage decision is made, a number of months may pass before it impacts the number of procedures and associated revenue, since the surgeons have to be made aware of the coverage decision, schedule re-examinations of patients who were candidates for surgery and subsequently schedule surgeries for the patients who are still candidates.

In addition to clinical evidence, a number of economic publications we financially supported, including those in *ClinicoEconomics and Outcomes Research*, demonstrate that iFuse provides a cost savings to the healthcare system for non-surgical management over time. One of these studies used data from INSITE to calculate the incremental cost-effectiveness of the iFuse Procedure and found it to be similar to that of hip and knee arthroplasty. The two latter procedures are generally accepted as being safe, effective and highly cost-effective. A second study detailed a health economics model examining the cost impact of failing to consider the sacroiliac joint in the diagnosis of patients with low back pain in patients seeking surgery. Taking into account both the prevalence of sacroiliac joint dysfunction and the costs of diagnostic workup and surgical treatment, if a surgeon evaluating a patient with chronic low back pain fails to consider the sacroiliac joint, on average $3,100 more healthcare expenditures will ensue. The study concluded that taking the sacroiliac joint into account can save healthcare systems substantial amounts due primarily to reduction in misdiagnosis and its attendant costs. A third study used data from our two prospective trials conducted in the United States to examine the impact of sacroiliac joint fusion on worker productivity. Results suggest that sacroiliac joint fusion can increase the productivity of affected workers by an average of $6,900 compared to continued non-surgical care.

Medical Affairs and Education

We have created a medical affairs team that focuses both internally and externally. Internally, specialized medical knowledge, and practical experience with iFuse are used to help train our sales, marketing, quality, reimbursement, clinical, regulatory, engineering, and product development teams. This same specialized medical knowledge and practical experience allow us to create and execute a wide variety of programs to train the relevant external medical community, to assist them in identifying and diagnosing patients with sacroiliac joint dysfunction and to perform the iFuse Procedure. The medical affairs team is led by a board certified fellowship trained orthopedic spine surgeon. As of December 31, 2016, our faculty consisted of 38 surgeons, 12 pain management physicians, six nurse practitioners/physician’s assistants, and 51 physical therapists. These third-

party consultants educate surgeons, physician's assistants, nurses, physical therapists, and other healthcare professionals regarding sacroiliac joint diagnosis and the iFuse Procedure.

Our surgeon training programs are for orthopedic spine surgeons, neurosurgeons, general orthopedic surgeons, and orthopedic trauma surgeons. Since its introduction, approximately 1,300 surgeons have treated patients with iFuse. We also have a large number of educational programs for the broader medical community including primary care physicians and other healthcare practitioners that may manage a sacroiliac joint patient non-surgically, such as physical therapists, pain management physicians, and chiropractors. We work to educate case managers, facilities where the iFuse Procedure is performed such as hospitals, as well as payors and health plans. For example, as of December 31, 2016, we have trained over 827 case managers across the United States. Case managers help patients navigate the healthcare system so that they receive the appropriate treatment. In addition to the continuing education program for case managers, we have created continuing education programs for physical therapists and chiropractors. As of December 31, 2016, our physical therapy continuing education programs were approved in 45 states. These programs include instruction on the diagnosis and non-surgical treatment of sacroiliac joint dysfunction due to degenerative sacroiliitis and sacroiliac joint disruptions. Our medical affairs programs focus on working with leading spine surgeons to educate other surgeons on the differential diagnosis of sacroiliac joint disorders and the use of iFuse. We also work closely with medical societies to raise the awareness of and the appropriate diagnosis of sacroiliac joint dysfunction and the associated treatment options.

Sales and Marketing

We market and sell iFuse primarily through a direct sales force and a small number of third-party distributors. Our target customer base includes approximately 7,500 surgeons who perform spine and/or pelvic surgery, including orthopedic spine surgeons, neurosurgeons, general orthopedic surgeons, and orthopedic trauma surgeons.

Our direct sales organization in the United States is comprised of eight sales regions. Each region is comprised of a number of territory sales managers who act as the primary customer contact. Our territory sales managers have extensive training and experience selling medical devices for spine problems and pain management, generally focusing on emerging technologies and markets. As of December 31, 2016, our territory sales managers were led by seven regional sales managers who reported to our Senior Director of U.S. Sales. The Senior Director of U.S. Sales reports to our Chief Commercial Officer. As of December 31, 2016, our U.S. sales force consisted of 43 sales representatives directly employed by us and 12 third-party distributors.

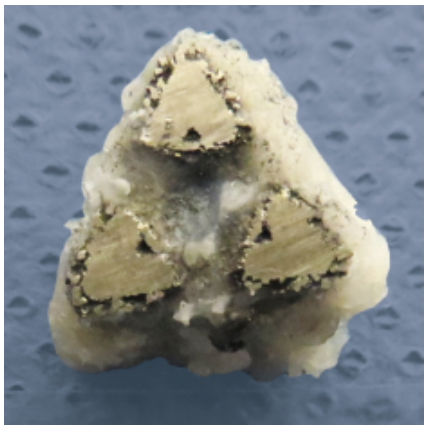
In addition to general sales and marketing training, we provide our sales organization with comprehensive, hands-on cadaveric and dry-lab training sessions focusing on the clinical benefits of our products and how to use them. We believe our robust training and professional development programs have been an important component of our success to date and will help support our anticipated future growth. We expect to continue to increase the size of our sales organization in order to increase sales and market penetration and to provide the significant, ongoing level of customer support required by our sales and marketing strategy.

As of December 31, 2016, we had 26 employees working in our European operations, and have established operations in Italy (2010), Germany (2014), and the United Kingdom (2015). As of December 31, 2016, our international sales force consisted of 11 sales representatives directly employed by us and 29 exclusive third- party distributors, which together had sales in 27 countries in 2016. We anticipate continuing to build our operations in the major European countries while establishing distributor arrangements in smaller ones. We intend to follow a similar model in Europe to the one established in the United States, working with internationally recognized healthcare professional experts as we expand our training and reimbursement activities. As of December 31, 2016, surgeons had performed the first iFuse Procedures in New Zealand, Hong Kong and Australia.

Research and Development

Since the launch of the initial system, we have introduced a number of new instrument enhancements, product enhancements and procedure enhancements. The most notable instrument enhancement was the release of the revamped instruments in the Radiolucent Set. We also run a "Non Standard Product" program that designs and manufactures one-off, Class I instruments to our surgeon customers based on one-off requests.

Our next generation iFuse implant, the iFuse-3D, was cleared for marketing by the U.S Food and Drug Administration, or FDA, in March 2017. This implant is produced with 3D printing and is designed to promote in-growth, through-growth and on-growth by bone. This product has shown positive bone growth in animal studies as evidenced in two peer reviewed studies accepted in March 2017 for publication in the *International Journal of Spine Surgery*. We are planning a gradual roll out of this product. The photographs below from sheep studies show robust growth of bone into our iFuse-3D implants, whether or not ground-up bone is added. Ground-up bone was added to the implant shown on the right.



We expect to continue developing enhancements to iFuse to meet our customers' changing needs and improve the surgery's effectiveness. Our research and development expense was $8.6 million and $6.4 million in 2015 and 2016, respectively.

Competition

We believe we were the first to develop, manufacture, and market an implant cleared by the FDA expressly for sacroiliac joint fusion. Over the past several years, other companies have subsequently recognized the opportunity and have entered the minimally invasive sacroiliac joint fusion market. However, all of these products are either screw-based or allograft products. We expect more competitors to enter into the market and an increased number of new product introductions by existing competitors. Many of our competitors are large, publicly traded companies that can dedicate far greater resources to the minimally invasive sacroiliac joint market than we can. These companies often have wide product offerings for spine and orthopedic surgery, which allow them to bundle products in order to win large hospital group contracts and can increase the barrier to entry for us. We also expect there to be a continued push for non-surgical alternatives.

In the United States, our primary competitors are Globus Medical, Inc., Medtronic plc, X-Spine Systems, Inc., XTant, and Zyga Technology, Inc. Globus Medical, SIGNUS Medizintechnik GmbH, and X-Spine Systems are our primary competitors in Europe. However, they sell screw-based products, which we believe to be weaker and less able to resist rotation than our triangular iFuse Implants. We also compete against non-hardware products, such as allograft bone implants. These allograft products are comprised of human cells or tissues and are regulated by the FDA differently from hardware medical devices.

Based on our commercial experience and market research, we believe iFuse is currently used in approximately 70% of minimally invasive surgical fusions of the sacroiliac joint in the United States. iFuse is the only minimally invasive product for sacroiliac joint fusion commercially available in the United States that, to our knowledge, is supported by published evidence of safety, clinical effectiveness, durability, and economic utility. These benefits are supported by more than 50 published papers.

The following are the primary competitive factors on which companies compete in our industry:

- product and clinical procedure effectiveness;
- ease of surgical technique and use of associated instruments;
- safety;
- published clinical outcomes and evidence;
- sales force knowledge;
- product support and service, and customer service;
- comprehensive training, including disease, anatomy, diagnosis and treatment;
- product innovation and the speed of innovation;
- intellectual property;
- accountability and responsiveness to customers' demands;
- pricing and reimbursement;
- scientific (biomechanics) data; and
- attracting and retaining key personnel.

Intellectual Property

We protect our intellectual property through our pending patent applications and issued patents. As of March 1, 2017, we had been issued 22 patents in the United States, four patents in Japan and one in China. Also, as of March 1, 2017, we have 16 pending patent applications in the United States and 13 pending patent applications outside of United States. We have focused the majority of our foreign patent efforts in Brazil, China, Europe, India, Japan, and South Korea.

Generally, our current U.S. patents are expected to expire between August 2024 to March 2033, and our Japanese patents are expected to expire between August 2025 and October 2031.

We have 16 registered trademarks in the United States and have filed for seven more. In other countries, we have focused on registering three primary trademarks: "iFuse Implant System," "SI-BONE," and the SI-BONE logo. As of December 31, 2016, we have sought protection for at least two of these trademarks in 60 countries.

We also rely upon trade secrets, know-how and continuing technological innovation, and may rely upon licensing opportunities in the future, to develop and maintain our competitive position. We may seek to protect our proprietary rights through a variety of methods, including confidentiality agreements and proprietary information agreements with suppliers, employees, consultants and others who may have access to proprietary information, under which they are bound to assign to us inventions made during the term of their employment.

The term of individual patents depends on the legal term for patents in the countries in which they are granted. In most countries, including the United States, the patent term is generally 20 years from the earliest claimed filing date of a non-provisional patent application in the applicable country. There can be no assurance that patents will be issued from any of our pending applications or that, if patents are issued, they will be of

sufficient scope or strength to provide meaningful protection for our technology. Notwithstanding the scope of the patent protection available to us, a competitor could develop treatment methods or devices that are not covered by our patents but which compete with our proprietary technology and products. Furthermore, numerous U.S. and foreign issued patents and patent applications owned by third parties exist in the fields in which we are developing products. Because patent applications can take many years to issue, there may be applications unknown to us, which applications may later result in issued patents that our existing or future products or proprietary technologies may be alleged and/or found to infringe.

There has been substantial litigation regarding patent and other intellectual property rights in the medical device industry. In the future, we may need to engage in litigation to enforce patents issued or licensed to us, to protect our trade secrets or know-how and brands, to defend against claims of infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. Litigation could be costly and could divert our attention from other functions and responsibilities. Adverse determinations in litigation could reduce the barriers to entry that we have established for iFuse, or subject us to significant liabilities to third parties, require us to seek licenses from third parties or prevent us from manufacturing, selling or using iFuse, any of which could severely harm our business.

Regulation

Domestic Regulation of Our Products and Business

Our research, development and clinical programs, as well as our manufacturing and marketing operations, are subject to extensive regulation in the United States and other countries. Most notably, all of our products sold in the United States are subject to the Federal Food, Drug, and Cosmetic Act, or the FDCA, as implemented and enforced by the FDA. The FDA governs the following activities that we perform or that are performed on our behalf, to ensure that medical products distributed domestically or exported internationally are safe and effective for their intended uses:

- product design, development, and manufacture;
- product safety, testing, labeling, and storage;
- record keeping procedures;
- product marketing, sales, distribution and export; and
- post-marketing surveillance, complaint handling, medical device reporting, reporting of deaths, serious injuries or device malfunctions, and repair or recall of products.

There are numerous FDA regulatory requirements governing the clearance or approval and marketing of our products. These include:

- product listing and establishment registration, which helps facilitate FDA inspections and other regulatory action;
- investigational device exemptions to conduct premarket clinical trials, which include extensive monitoring, recordkeeping, and reporting requirements;
- Quality System Regulation, or QSR, which requires manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the manufacturing process;
- labeling regulations and FDA prohibitions against the promotion of products for uncleared, unapproved or off-label use or indication;
- clearance of product modifications that could significantly affect safety or effectiveness or that would constitute a major change in intended use of one of our cleared devices;

- approval of product modifications that affect the safety or effectiveness of one of our approved devices;
- medical device reporting regulations, which require that manufacturers comply with FDA requirements to report if their device may have caused or contributed to a death or serious injury, or has malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction of the device or a similar device were to recur;
- post-approval restrictions or conditions, including post-approval study commitments;
- post-market surveillance regulations, which apply when necessary to protect the public health or to provide additional safety and effectiveness data for the device;
- the FDA's recall authority, whereby it can ask, or under certain conditions order, device manufacturers to recall from the market a product that is in violation of governing laws and regulations;
- regulations pertaining to voluntary recalls; and
- notices of corrections or removals.

We have registered our facility with the FDA as a medical device manufacturer. The FDA has broad post- market and regulatory enforcement powers. We and our third-party manufacturers are subject to announced and unannounced inspections by the FDA to determine our compliance with the QSR and other regulations and these inspections may include the manufacturing facilities of our suppliers.

FDA Premarket Clearance and Approval Requirements

Unless an exemption applies, each medical device we wish to commercially distribute in the United States will require either premarket notification, or 510(k), clearance or approval of a premarket approval application, PMA, from the FDA. The FDA classifies medical devices into one of three classes. Devices deemed to pose lower risks are placed in either Class I or II, which typically requires the manufacturer to submit to the FDA a premarket notification requesting permission to commercially distribute the device. This process is generally known as 510(k) clearance. Some low risk devices are exempted from this requirement. Devices deemed by the FDA to pose the greatest risks, such as life-sustaining, life-supporting or implantable devices, or devices deemed not substantially equivalent to a previously cleared 510(k) device, are placed in Class III, requiring a PMA. All of our currently marketed products are Class II devices, subject to 510(k) clearance.

Clinical Trials

Clinical trials are generally required to support a PMA application and are sometimes required for 510(k) clearance. Such trials for implanted devices such as iFuse generally require an investigational device exemption application, or IDE, approved in advance by the FDA for a specified number of subjects and study sites, unless the product is deemed a nonsignificant risk device eligible for more abbreviated IDE requirements. Clinical trials are subject to extensive monitoring, recordkeeping and reporting requirements. Clinical trials must be conducted under the oversight of an institutional review board, or IRB, for the relevant clinical trial sites and must comply with FDA regulations, including but not limited to those relating to good clinical practices. To conduct a clinical trial, we also are required to obtain the subjects' informed consent in form and substance that complies with both FDA requirements and state and federal privacy and human subject protection regulations. We, the FDA or the institutional review board, or IRB, could suspend a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits. Even if a trial is completed, the results of clinical testing may not adequately demonstrate the safety and effectiveness of the device or may otherwise not be sufficient to obtain FDA clearance or approval to market the product in the United States. Similarly, in Europe the clinical study must be approved by a local ethics committee and in some cases, including studies with high- risk devices, by the ministry of health in the applicable country.

Pervasive and Continuing Regulation

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

- Product listing and establishment registration, which helps facilitate FDA inspections and other regulatory action;
- QSR, which requires manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the manufacturing process;
- labeling regulations and FDA prohibitions against the promotion of products for uncleared, unapproved or off-label use or indication;
- clearance of product modifications that could significantly affect safety or effectiveness or that would constitute a major change in intended use of one of our cleared devices;
- approval of product modifications that affect the safety or effectiveness of one of our approved devices;
- medical device reporting regulations, which require that manufacturers comply with FDA requirements to report if their device may have caused or contributed to a death or serious injury, or has malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction of the device or a similar device were to recur;
- post-approval restrictions or conditions, including post-approval study commitments;
- post-market surveillance regulations, which apply when necessary to protect the public health or to provide additional safety and effectiveness data for the device;
- the FDA's recall authority, whereby it can ask, or under certain conditions order, device manufacturers to recall from the market a product that is in violation of governing laws and regulations;
- regulations pertaining to voluntary recalls; and
- notices of corrections or removals.

The FDA inspected our facilities in May 2014. As a result, we received a Form 483 with three observations that have been since been corrected following a corrective and preventative action plan. We responded to the Agency in writing and the matter was closed as of October 2014. To date, the FDA has not taken any further actions with respect to the May 2014 inspection or its findings. The FDA inspected our facilities again in December 2016. As a result, no findings were noted.

Promotional Materials—"Off-Label" Promotion

Advertising and promotion of medical devices, in addition to being regulated by the FDA, are also regulated by the Federal Trade Commission and by state regulatory and enforcement authorities. If the FDA determines that our promotional materials or training constitutes promotion of an unapproved use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, injunction, seizure, civil fine, or criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our promotional or training materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false claims for reimbursement. In that event, our reputation could be damaged and adoption of the products would be impaired.

In addition, under the federal Lanham Act and similar state laws, competitors, and others can initiate litigation relating to advertising claims.

International Regulation of Our Products

Our research, development and clinical programs, as well as our manufacturing and marketing operations, are subject to extensive regulation in other countries. For example, in the European Economic Area, or EEA, our devices are required to comply with the Essential Requirements laid down in Annex I to the EU Medical Devices Directive (Council Directive 93/42/EEC), or Essential Requirements, concerning medical devices. Compliance with these requirements entitles us to affix the CE mark to our medical devices, without which they cannot be commercialized in the EEA.

To demonstrate compliance with the Essential Requirements, we must undergo a conformity assessment procedure, which varies according to the type of medical device and its classification. Except for low risk medical devices (Class I with no measuring function and which are not sterile), where the manufacturer can issue an EC Declaration of Conformity based on a self-assessment of the conformity of its products with the Essential Requirements, a conformity assessment procedure requires the intervention of a Notified Body, which is an organization designated by the competent authorities of a EEA country to conduct conformity assessments. The Notified Body typically audits and examines products' Technical File and the quality system for the manufacture, design and final inspection of our devices before issuing a CE Certificate of Conformity demonstrating compliance with the relevant Essential Requirements. Following the issuance of this CE Certificate of Conformity, we can draw up an EC Declaration of Conformity and affix the CE mark to the products covered by this CE Certificate of Conformity and the EC Declaration of Conformity. We have successfully completed several Notified Body audits since our original certification in November 2010. Following these audits, our Notified Body issued International Standards Organization Certificates and CE Certificates of Conformity allowing us to draw up an EC Declaration of Conformity and affix the CE mark to certain of our devices.

After the product has been CE marked and placed on the market in the EEA, we must comply with a number of regulatory requirements relating to:

- registration of medical devices in individual EEA countries;
- pricing and reimbursement of medical devices;
- establishment of post-marketing surveillance and adverse event reporting procedures;
- Field Safety Corrective Actions, including product recalls and withdrawals; and
- interactions with physicians.

Failure to comply with these requirements may result in enforcement measures being taken against us by the competent authorities of the EEA countries. These can include fines, administrative penalties, compulsory product withdraws, injunctions and criminal prosecution. Such enforcement measures would have an adverse effect on our capacity to market our products in the EEA and, consequently, on our business and financial position.

Further, the advertising and promotion of our products in the EEA is subject to the provisions of the Medical Devices Directive, Directive 2006/114/EC concerning misleading and comparative advertising, and Directive 2005/29/EC on unfair commercial practices, as well as other national legislation in the EEA countries governing the advertising and promotion of medical devices. These laws may limit or restrict the advertising and promotion of our products to the general public and may impose limitations on our promotional activities with healthcare professionals.

Regulatory Status

In November 2008, we received 510(k) clearance to market iFuse from the FDA. Since 2008, we have received additional FDA 510(k) clearances for new instruments, additional implant sizes and labeling changes. In the United States, the iFuse Implant System is intended for sacroiliac fusion for conditions, including sacroiliac

joint dysfunction that is a direct result of sacroiliac joint disruptions and degenerative sacroiliitis. This includes conditions where symptoms began during pregnancy or in the peripartum period and have persisted postpartum for more than six months. Clinical Studies have demonstrated that treatment with the iFuse Implant System improved pain, patient function, and quality of life. In the future, we plan to pursue additional 510(k) clearances for new products and changes to the current indication for iFuse.

In November 2010, we obtained a CE Certificate of Conformity and affixed a CE mark to our device to allow commercialization of iFuse in the EEA. In the EEA and Switzerland, iFuse is intended for sacroiliac joint fusion. Since 2010, we have added additional instruments and implant sizes and labeling updates to our product offerings in Europe. We plan to continue to work with our Notified Body to incorporate new products and labeling updates in our Technical Files for CE marking in European.

Since July 2013, we have obtained approval for iFuse in regions beyond the United States and the EEA, including Australia, Canada, Hong Kong, Israel, Malaysia, New Zealand, and Singapore. Additional product applications are under review in Mexico, South Korea, Taiwan, Saudi Arabia, and India. We are currently collecting information to determine our regulatory strategy in Japan and China.

In March 2017, our next generation iFuse-3D implants received marketing clearance from the FDA.

Healthcare Fraud and Abuse

Federal and state governmental agencies and equivalent foreign authorities subject the healthcare industry to intense regulatory scrutiny, including heightened civil and criminal enforcement efforts. These laws constrain the sales, marketing and other promotional activities of medical device manufacturers by limiting the kinds of financial arrangements we may have with hospitals, physicians and other potential purchases of our products. Federal healthcare fraud and abuse laws apply to our business when a customer submits a claim for an item or service that is reimbursed under Medicare, Medicaid or other federally-funded healthcare programs. Descriptions of some of the laws and regulations that may affect our ability to operate follows.

The federal Anti-Kickback Statute prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, items or services for which payment may be made, in whole or in part, under federal healthcare programs. The term “remuneration” has been broadly interpreted to include anything of value, and the government can establish a violation of the Anti-Kickback Statute without proving that a person or entity had actual knowledge of the law or a specific intent to violate. The Anti-Kickback Statute is subject to evolving interpretations and has been applied by government enforcement officials to a number of common business arrangements in the medical device industry. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution; however, those exceptions and safe harbors are drawn narrowly, and there is no exception or safe harbor for many common business activities. Failure to meet all of the requirements of a particular statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute, but the legality of the arrangement will be evaluated on a case-by-case basis based on the totality of the facts and circumstances. A number of states also have anti-kickback laws that establish similar prohibitions that may apply to items or services reimbursed by government programs, as well as any third-party payors, including commercial payors.

The Civil False Claims Act prohibits, among other things, knowingly presenting or causing the presentation of a false or fraudulent claim for payment of federal funds, or knowingly making, or causing to be made, a false record or statement material to a false or fraudulent claim to avoid, decrease or conceal an obligation to pay money to the federal government. A claim including items or services resulting from a violation of the Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act. Actions under the False Claims Act may be brought by the government or as a *qui tam* action by a private individual in the name of the government. *Qui tam* actions are filed under seal and impose a mandatory duty on the U.S. Department of

Justice to investigate such allegations. Most private citizen actions are declined by the Department of Justice or dismissed by federal courts. However, the investigation costs for a company can be significant and material even if the allegations are without merit. There are also criminal penalties, including imprisonment and criminal fines, for making or presenting a false or fictitious or fraudulent claim to the federal government.

False Claims Act liability is potentially significant in the healthcare industry because the statute provides for treble damages and mandatory penalties of $5,500 to $11,000 per false claim or statement (and penalties of $10,781 to $21,563 per false claim or statement for penalties assessed after August 1, 2016, based on violations occurring after November 2, 2015). Because of the potential for large monetary exposure, healthcare companies often resolve allegations without admissions of liability for significant and sometimes material amounts to avoid the uncertainty of treble damages and per claim penalties that may awarded in litigation proceedings. They may be required, however, to enter into corporate integrity agreements with the government, which may impose substantial costs on companies to ensure compliance.

In addition, the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and 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.

The federal Physician Payment Sunshine Act, which is being implemented by CMS as the Open Payments program, requires manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid, or the Children’s Health Insurance Program to report annually with certain exceptions to CMS information related to payments or other “transfers of value” made to physicians and teaching hospitals, and requires applicable manufacturers and group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members and payments or other “transfers of value” to such physician owners. Certain states also mandate implementation of commercial compliance programs, impose restrictions on device manufacturer marketing practices, and/or require tracking and reporting of gifts, compensation and other remuneration to healthcare professionals and entities.

The Foreign Corrupt Practices Act of 1997 and similar anti-bribery laws in other countries, such as the United Kingdom Anti-Bribery Act generally prohibit companies and their intermediaries from making improper payments to government officials and/or other persons for the purpose of obtaining or retaining business. Our policies mandate compliance with these anti-bribery laws.

Violations of these laws can subject us to administrative, civil and criminal penalties, including imprisonment, fines, damages, and exclusion from participation in federal healthcare programs, including Medicare and Medicaid.

Coverage and Reimbursement

Coverage and reimbursement for iFuse products and related procedures vary by setting of care, payor type, and region. In the United States, healthcare providers that purchase iFuse products look to various third-party payors, such as Medicare, Medicaid, private commercial insurance companies, health maintenance organizations, accountable care organization, or ACOs, and other healthcare-related organizations, to cover and pay for all or part of the costs of these procedures. These providers bill patients for any applicable deductibles or co-payments. Sales volumes and prices of company products will continue to depend in large part on the availability of coverage and reimbursement from such third-party payors.

In the United States, the Medicare program is commonly used as a model for how private payors and other governmental payors develop their coverage and reimbursement policies for healthcare items and services, including iFuse Procedures. Medicare's coverage policies may vary across the country, however. Unless a national coverage policy exists for a particular technology, each Medicare Administrative Contractor, or MAC, is permitted to make its own determination of whether that item or service is covered by Medicare.

Medicare's reimbursement rates for the iFuse Procedure vary due to geographic location, the nature of facility in which the procedure is performed (i.e., hospital inpatient department, hospital outpatient department, or ambulatory surgical center) and other factors. Medicare reviews and updates its payment rates and methodologies for these settings of care annually, and rates can change significantly from year to year. In addition, Congress can alter reimbursement rates at any time by mandating changes to Medicare's payment methodologies.

Similarly, private payor coverage policies and reimbursement rates tend to vary across payors and settings of care. Payors continually review the clinical evidence for new technologies and can change their coverage policies without notice or deny payment if the product was not used in accordance with the payor's coverage policy. Payors also review and challenge the prices charged for products and procedures.

In the United States, a large percentage of insured individuals receive their medical care through managed care programs, which monitor and often require pre-approval of the services that a member will receive. Some managed care programs pay their providers on a per capita basis, which puts the providers at financial risk for the services provided to their patients by paying these providers a predetermined payment per member per month.

Outside the United States, reimbursement levels vary significantly by country, and by region within some countries. Reimbursement is obtained from a variety of sources, including government-sponsored and private health insurance plans, and combinations of both. Some countries will require us to gather additional clinical data before recognizing and granting broader coverage and reimbursement for our products. European Economic Area, or EEA.

Manufacturing and Supply

We use third-party manufacturers to produce our instruments and implants. The majority of our instruments have secondary manufacturing suppliers and we continually work with additional manufacturers to establish secondary suppliers. Our iFuse Implants are currently provided by a single source, Orchid Bio-Coat, a division of Orchid Orthopedic Solutions LLC, or Orchid. We have a supplier quality agreement with Orchid, which sets forth how products produced pursuant to the agreement will meet the quality and regulatory requirements referenced therein. The agreement will remain in effect until April 18, 2019 unless we extend the agreement. Either we or Orchid may terminate the agreement by giving the other party twelve-months written notice. To mitigate supply risk, we carry a minimum of two months of reserve stock based on current sales estimates and typically place implant orders with Orchid prior to estimated demand. In addition we have added a second source supplier for machine parts, however these parts still need to be coated by Orchid to finish the goods. Aside from quality agreements, we do not currently have manufacturing agreements with any of our manufacturers and orders are controlled through purchase orders.

We believe that our manufacturing operations, and those of our suppliers, are in compliance with regulations mandated by the FDA, as well as Medical Devices Directive regulations in the EEA. Manufacturing facilities that produce medical devices or component parts intended for distribution world-wide are subject to regulation and periodic planned and unannounced inspection by the FDA and other domestic and international regulatory agencies.

In the United States, products we sell are required to be manufactured in compliance with the FDA's QSR, which covers the methods used in, and the facilities used for, the design, testing, control, manufacturing,

labeling, quality assurance, packaging, storage, and shipping. In international markets, we are required to obtain and maintain various quality assurance and quality management certifications. We have obtained the following international certifications: Quality Management System ISO13485, Full Quality Assurance Certification for the design and manufacture of iFuse, and a Design Examination certificate for iFuse.

We are required to demonstrate continuing compliance with applicable regulatory requirements to maintain these certifications and will continue to be periodically inspected by international regulatory authorities for certification purposes. Further, we and certain of our suppliers are required to comply with all applicable regulations and current good manufacturing practices. As set forth above, these FDA and international regulations cover, among other things, the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, sterilization, storage, and shipping of our products. Compliance with applicable regulatory requirements is subject to continual review and is monitored rigorously through periodic inspections. If we or our manufacturers fail to adhere to current good manufacturing practice requirements, this could delay production of our products and lead to fines, difficulties in obtaining regulatory approvals, recalls, enforcement actions, including injunctive relief or consent decrees, or other consequences, which could, in turn, have a material adverse effect on our financial condition or results of operations.

Product Liability and Insurance

The manufacture and sale of our products subjects us to the risk of financial exposure to product liability claims. Our products are used in situations in which there is a risk of serious injury or death. We carry insurance policies which we believe to be customary for similar companies in our industry. We cannot assure you that these policies will be sufficient to cover all or substantially all losses that we experience.

We endeavor to maintain executive and organization liability insurance in a form and with aggregate coverage limits that we believe are adequate for our business purposes, but our coverage limits may prove not to be adequate in some circumstances.

Legal Proceedings

We are, and from time to time may be, party to litigation and subject to claims incident to the ordinary course of business. As our growth continues, we may become party to an increasing number of litigation matters and claims. The outcome of litigation and claims cannot be predicted with certainty, and the resolution of these matters could materially affect our future results of operations, cash flow or financial position. We are not presently party to any legal proceedings that in the opinion of management, if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, financial condition or cash flow.

Employees

As of December 31, 2016, we had 165 employees, including sales and marketing, product development, general administrative and accounting, both domestically and internationally. As of December 31, 2016, we had 165 employees, including a direct field sales organization of 60 in the United States and 11 in Europe. In the United States, we sell primarily through our direct field organization, and we have a small number of third-party distributors. None of our employees is subject to a collective bargaining agreement, and we consider our relationship with our employees to be good.

Company History

SI-BONE was founded in 2008 by the main inventor of iFuse and member of our board of directors, orthopedist Mark A. Reiley, M.D., our President, Chief Executive Officer and Chairman, Jeffrey W. Dunn, and orthopedic surgeon Leonard Rudolf, M.D. Dr. Reiley previously invented balloon kyphoplasty and founded

Kyphon Inc., which was sold to Medtronic plc in 2007. He also invented the INBONE total ankle replacement system, which was sold to Wright Medical Technology, Inc. in 2008.

Facilities

Our leased headquarters in San Jose, California, is comprised of approximately 18,892 square feet. Our headquarters houses our research, product development, marketing, finance, education, and administration functions. We believe our facilities are adequate and suitable for our current needs but in the future we may need additional space.

MANAGEMENT

Executive Officers, Key Employees and Directors

The following table sets forth information regarding our executive officers, key employees and directors, as of March 1, 2017:

Name	Age	Position(s)
Executive Officers and Key Employees		
Jeffrey W. Dunn	62	President, Chief Executive Officer, and Chairman
Laura A. Francis	50	Chief Financial Officer
W. Carlton Reckling, M.D.	55	Chief Medical Officer and Vice President, Medical Affairs
Anthony J. Recupero	58	Chief Commercial Officer
Scott A. Yerby, Ph.D.	49	Chief Technology Officer
Daniel J. Cher, M.D.	52	Vice President, Clinical Affairs
Roxanne Dubois	51	Vice President, Regulatory and Quality
Nikolas F. Kerr	46	Vice President, Product Marketing
Andrea Mercanti	53	Vice President, EMEA Operations
Michael Mydra	56	Vice President, Health Outcomes & Reimbursement
Michael A. Pisetsky	39	Vice President, General Counsel and Chief Compliance Officer
Joseph W. Powers	58	Vice President, Marketing
Non-Employee Directors		
David P. Bonita, M.D.	41	Director
Timothy E. Davis, Jr.	46	Director
John G. Freund, M.D.	63	Director
Gregory K. Hinckley	70	Director
Karen A. Licitra	57	Director
Timothy B. Petersen	52	Director
Mark A. Reiley, M.D.	66	Director
Keith C. Valentine	49	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Executive Officers

Jeffrey W. Dunn has served as our President and Chief Executive Officer and as the Chairman of our board of directors since our inception in April 2008. Prior to joining us, Mr. Dunn served as Chief Executive Officer of INBONE Technologies, Inc., an ankle replacement and small bone fusion medical device company, from December 2006 to April 2008, until its sale to Wright Medical Technology, Inc. in April 2008. From August 2000 to June 2006, Mr. Dunn was the Chief Executive Officer of Active Decisions, Inc., a software as a service business, until its sale to Knova Software, Inc. From December 1999 to June 2000, Mr. Dunn was the Chief Executive Officer of Velogic, Inc., an internet performance testing software company, until its sale to Keynote Systems Inc. From June 1999 to December 1999, Mr. Dunn was the Chief Executive Officer of EnterpriseLink

Inc., a provider of enterprise Internet enablement software, until its sale to Merant, Inc. From November 1994 to June 1998, Mr. Dunn was Chief Executive Officer of AccelGraphics Inc., a 3D graphics system supplier, until its sale to Evans and Sutherland Computer Corporation. As well, during his career, Mr. Dunn held executive positions with Evans and Sutherland, Cygnet Systems, Inc., Avnet, Inc. and Xerox Corporation. Mr. Dunn received a B.A. from Colgate University and an M.B.A. from Babson College. We believe Mr. Dunn's experience in the industry, his role as our President and Chief Executive Officer, and his knowledge of our company enable him to make valuable contributions to our board of directors.

Laura A. Francis has served as our Chief Financial Officer since May 2015. Prior to joining us, Ms. Francis was the Chief Financial Officer for Auxogyn, Inc., a women's health company, from December 2012 to September 2014. From September 2004 to December 2012, Ms. Francis served as Vice President of Finance, Chief Financial Officer and Treasurer for Promega Corporation, a life science reagent company. From March 2002 to September 2004, Ms. Francis served as the Chief Financial Officer of Bruker BioSciences Corporation, a public life science instrumentation company. From May 2001 to March 2002, Ms. Francis served as Chief Operating Officer and Chief Financial Officer of Nutra-Park Inc., an agricultural biotechnology company. From April 1999 to May 2001, Ms. Francis was Chief Financial Officer of Hypercosm, Inc., a software company. From October 1995 to April 1999, Ms. Francis was an engagement manager with McKinsey & Company, a consulting firm. Early in her career, Ms. Francis was an audit manager with Coopers & Lybrand, an accounting firm. Ms. Francis received a B.B.A. from the University of Wisconsin and an M.B.A. from Stanford University. She is a Certified Public Accountant (inactive) in the State of California.

W. Carlton Reckling, M.D. has served as our Vice President, Medical Affairs since April 2012 and our Chief Medical Officer since February 2017. From July 1994 to April 2012, Dr. Reckling was a spine surgeon at the Spine Center in Loveland, Colorado, Rocky Mountain Orthopedic Specialists in Cheyenne, Wyoming, the Center for Spine & Orthopedic Surgery in Cheyenne, Wyoming, Associates in Orthopedic Surgery in Cheyenne, Wyoming, and Ramsey Hospital and Clinics in St. Paul, Minnesota. Dr. Reckling received a B.S. in Chemical Engineering from Northwestern University, an M.D. from Creighton University, and an M.B.A. from the University of Wyoming. He completed his internship and his residency in orthopedic surgery at the University of Minnesota. While in the Minnesota program, he spent time at the Twin Cities Scoliosis Center. He completed his fellowship in spine surgery at Queen's University Medical Centre in Nottingham, England. Dr. Reckling also underwent additional training in general surgery at the University of Minnesota Hospitals and Clinics in Minneapolis, Minnesota. Dr. Reckling is a board-certified orthopedic spine surgeon.

Anthony J. Recupero has served as our Chief Commercial Officer since July 2016. Prior to joining us, Mr. Recupero was the President of Catalyst Performance Advisors, LLC, where he advised leading medical device companies on commercial strategy from June 2013 to July 2016. In July 2008, Mr. Recupero joined Baxano, Inc., a medical device company with minimally invasive products to treat degenerative conditions of the spine affecting the lumbar region, initially as Vice President of Sales and Marketing and was promoted in February 2009 to President and Chief Executive Officer until its acquisition by TranS1 in June 2013. From January 2005 to July 2008, Mr. Recupero was President of Recupero Consulting Group, LLC, where he advised leading medical device companies on commercial strategy. From October 1999 to December 2004, Mr. Recupero was the Vice President of Sales for Kyphon. Early in his career, Mr. Recupero progressed to senior sales management roles at United States Surgical Corporation and Sulzer Spine-Tech, Inc. Mr. Recupero received a B.A. in Communications from State University of New York at Albany.

Scott A. Yerby, Ph.D. has served as our Chief Technology Officer since January 2011. Prior to joining us, Dr. Yerby served as Vice President, Research and Development for ProMed, Inc., a medical supply company, from June 2009 to January 2011. From May 2007 to June 2009, Dr. Yerby sat on the board of several non-profit organizations. From June 2000 to May 2007, Dr. Yerby served as Vice President of Research and Development for St. Francis Medical Technologies, Inc., a spinal manufacturing company, until its acquisition by Kyphon, Inc. From June 1997 to June 2000, Dr. Yerby served as Director of Experimental Biomechanics at the Palo Alto VA Hospital. Early in his career, Dr. Yerby held appointments as Consulting Assistant Professor at Stanford

University in the Department of Mechanical Engineering, Division of Biomechanical Engineering, and the Department of Functional Restoration, Division of Orthopedic Surgery. Dr. Yerby received B.S. and M.S. degrees in Mechanical Engineering and a Ph.D. in Biomedical Engineering, all from the University of California, Davis.

Key Employees

Daniel J. Cher, M.D. has served as our Vice President, Clinical Affairs since January 2012. From May 2008 to December 2011, Dr. Cher served as Vice President of Clinical and Regulatory Affairs at Chestnut Medical Technologies, Inc., a company developing new minimally invasive therapies for interventional neuroradiology. From March 2007 to January 2008, Dr. Cher served as Vice President of Clinical and Regulatory Affairs at Pulmonx Inc., a medical device company developing products for patients with emphysema. From October 2004 to March 2007, Dr. Cher was Medical Director and Vice President of Clinical Research at Kyphon. From October 2003 to September 2004, Dr. Cher was Medical Director for Cardima, Inc., a medical device company developing products for cardiac ablation. Prior to Cardima, Dr. Cher was a statistician at Conceptus Inc., a manufacturer and developer of medical devices aimed at permanent female sterilization. During the last 17 years, Dr. Cher has provided clinical and regulatory strategic consulting services to medical device companies in the San Francisco Bay Area and beyond. Dr. Cher received a B.S. in Biology from Stanford University and an M.D. from Yale University. Dr. Cher completed his residency in internal medicine at the University of Wisconsin, Madison, and at California Pacific Medical Center in San Francisco. He completed additional training in general internal medicine and research methods at Stanford University and the Palo Alto VA Hospital.

Roxanne Dubois has served as our Vice President, Regulatory and Quality since February 2014. Previously, Ms. Dubois served as our Senior Director, Regulatory from December 2012 to February 2014 and as a consultant for us from February 2012 to December 2012. From February 2009 to February 2014, Ms. Dubois was Vice President, Regulatory as an employee and consultant with Tenaxis Medical Inc., a medical device company. From January 2006 to December 2008, Ms. Dubois served as Vice President, Regulatory and Quality at Carbylan BioSurgery, Inc., a medical device company. From February 2005 to January 2006, Ms. Dubois served as Director, Regulatory at Kyphon. Previously, Ms. Dubois held various regulatory roles at Angiotech BioMaterials Corporation, ReGen Biologic, Inc., and Collagen Corporation. Ms. Dubois received a B.S. in Biochemistry from California Polytechnic State University, San Luis Obispo.

Nikolas F. Kerr has served as our Vice President, Product Marketing since August 2016. Prior to joining us, Mr. Kerr was President of Kerr Consulting Group where he advised leading medical device companies on product strategy. Previously, Mr. Kerr was Senior Director of Marketing for Benvenue Medical from December 2013 to June 2014. From August 2011 to December 2013, Mr. Kerr was Senior Director of Marketing for Baxano. From August 2006 to August 2011, Mr. Kerr served in various marketing roles at Medtronic's Spinal & Biologics Group including the Director of Global Marketing for the Kyphon division. And from August 1998 to August 2006, Mr. Kerr served in various sales, marketing, and business development roles for Milliken & Company. Mr. Kerr started his career with Credit Suisse as an Analyst for Debt Capital Markets. Mr. Kerr received a B.S. in Finance and Economics and Master of International Business Economics from the Darla Moore School of Business, University of South Carolina.

Andrea Mercanti has served as our Vice President, EMEA Operations since May 2013, and he previously served as our Vice President, European Operations from September 2010 to April 2013. Prior to joining us, Mr. Mercanti was General Director for Italy of MBA Incorporado, an orthopedic, spine and biomaterials distributor, from April 2009 to August 2010. From January 2008 to March 2009, Mr. Mercanti was Vice President, Sales Europe for Europe for Orthofix International N.V., a spinal care solutions company. From December 2006 to December 2007, Mr. Mercanti was Business Unit Director for Italy, Regional Director South Europe, and Director of South Europe and German speaking countries at Kyphon. From December 2005 to November 2006, he served as Regional Director for South Europe for Kyphon. From January 1987 to December

2004, Mr. Mercanti held positions in strategic sales in different divisions of Medtronic, including 12 years in the Neurological Business Unit with spinal cord stimulation treatment for pain and, in the last four years, as Director of Spine Business. Mr. Mercanti received a degree in economics from the Technical and Economics School at the Instituto Milano in Milan, Italy.

Michael Mydra has served as our Vice President, Health Outcomes and Reimbursement since April 2012. Prior to joining us, Mr. Mydra was Vice President, Health Outcomes & Reimbursement for Vertos Medical, Inc., a manufacturer of lumbar spine technologies, from August 2009 to February 2012. From September 2003 to March 2009, Mr. Mydra served as Vice President, Reimbursement for Sanarus Medical, Inc., a medical device manufacturer. From September 1998 to September 2003, Mr. Mydra served as Director of Corporate and Payor Development at Urologix, Inc., a medical device manufacturer. Early in his career, Mr. Mydra worked at Blue Cross Blue Shield of Minnesota, a health insurance provider. Mr. Mydra received a B.A. in Biology and an M.B.A. from the University of St. Thomas, and he received a graduate certificate from the Advanced Management Program for Healthcare Executives sponsored by the University of Minnesota Carlson School of Management and the Mayo Foundation.

Michael A. Pisetsky has served as our Vice President, General Counsel and Chief Compliance Officer since August 2016. Mr. Pisetsky joined us in March 2015 as our Director of Legal. From August 2011 to March 2015, Mr. Pisetsky practiced law privately, serving as General Counsel to New Wave Surgical Corp. and a large operator of shopping centers in the Southeast, among a number of other companies in the medical technology and healthcare services space. From August 2008 to July 2011, Mr. Pisetsky was an Associate in the Business Department at Cooley LLP in Palo Alto, representing a portfolio of medical technology, biotech, healthcare services and general technology clients, from inception to public offering and eventual sale. Mr. Pisetsky received his B.A. with Honors from Harvard College. Mr. Pisetsky received his J.D. (magna cum laude) and M.B.A., including a certificate in Health Sector Management, concurrently from Duke University.

Joseph W. Powers has served as our Vice President, Marketing since August 2012. Previously, Mr. Powers served as our Senior Director, Business Development from January 2012 to July 2012 and as our Western Area Sales Director from December 2009 to December 2011. Prior to joining us, Mr. Powers served as Vice President, Clinical/Marketing at Benvenue Medical, Inc., a medical device company that makes minimally invasive systems for spine repair, from March 2007 to April 2009. From January 2004 to March 2007, Mr. Powers served as a Spine Consultant at Kyphon, and from December 2002 to December 2004, Mr. Powers served as Director, Product Marketing at Kyphon. Previously, Mr. Powers held positions in marketing management and project management at Target Therapeutics Inc., a medical device company. Mr. Powers received a B.S. in Biology and Chemical Engineering from Arizona State University.

Non-Employee Directors

David P. Bonita, M.D. has served as a member of our board of directors since April 2014. Dr. Bonita has also served as a Private Equity Partner at OrbiMed Advisors LLC, an investment company focused on the healthcare industry, since June 2013. From December 2007 to June 2013, Dr. Bonita was a Private Equity Principal at OrbiMed. From June 2004 to December 2007, he was a Private Equity Senior Associate at OrbiMed. Prior to OrbiMed, Dr. Bonita was a corporate finance analyst in the healthcare investment banking group of Morgan Stanley from February 1998 to July 1999. From August 1997 to February 1998, Dr. Bonita served as a corporate finance analyst in the healthcare investment banking group of UBS AG, a global financial service firm. Dr. Bonita has served and continues to serve on the board of directors of numerous private and public companies, including Loxo Oncology, Inc., a developer of oncological drugs, from October 2013 to present; ViewRay Inc., a designer and manufacturer of radiation therapy and imaging technologies, from January 2008 to present; and Ambit Biosciences Corporation, a drug developer focusing on oncology, autoimmune, and inflammatory diseases from October 2012 to November 2014. Dr. Bonita received an A.B. in Biological Sciences from Harvard College and an M.D. and an M.B.A. from Columbia University. We believe Dr. Bonita’s extensive investment experience in the healthcare industry and his experience as a public company director enable him to make valuable contributions to our board of directors.

Timothy E. Davis, Jr. has served as a member of our board of directors since our inception in April 2008. Mr. Davis has served as President and Chief Executive Officer of Active Implants, LLC, a company that provides orthopedic implant solutions, since February 2017. From January 2014 through September 2015, Mr. Davis served as Chief Executive Officer of MicroPort Orthopedics, Inc., a multinational producer of orthopedic products, following the purchase of Wright Medical Group's OrthoRecon Business in January 2014. From December 2006 to January 2014, Mr. Davis served in a number of executive positions for Wright Medical Technology, Inc., a subsidiary of Wright Medical Group, Inc., including President of the OrthoRecon business. From 2004 to 2006, Mr. Davis was a Partner with MB Venture Partners, LLC, a medical technology and life sciences venture capital firm. From 1997 to 2004, Mr. Davis held various positions, ultimately serving as Vice President, with Vector Fund Management, a healthcare and life sciences focused venture capital fund. Early in his career, Mr. Davis worked in the healthcare management consulting and pharmaceutical industries. Mr. Davis received a B.E. degree in Biomedical Engineering from Vanderbilt University and an M.B.A. from the J.L. Kellogg Graduate School of Management at Northwestern University. We believe Mr. Davis' experience in the industry and his knowledge of our company enable him to make valuable contributions to our board of directors.

John G. Freund, M.D. has served as a member of our board of directors since January 2013. Dr. Freund founded Skyline Ventures, a venture capital firm, in October 1997 and has served as a Managing Director of Skyline since then. Prior to joining Skyline, Dr. Freund served as Managing Director in the private equity group of Chancellor Capital Management, a private capital investment firm. In November 1995, Dr. Freund co-founded Intuitive Surgical, Inc., a medical device company, and served on its board of directors until March 2000. From 1988 to 1994, he held various positions at Acuson Corporation, a maker of ultrasound equipment that is now part of Siemens, most recently as Executive Vice President. Prior to joining Acuson, Dr. Freund was a general partner of Morgan Stanley Venture Partners from 1987 to 1988. From 1982 to 1988, Dr. Freund was at Morgan Stanley & Co., an investment banking company, where he co-founded the Healthcare Group in the Corporate Finance Department in 1983. Dr. Freund has served on the board of directors of Collegium Pharmaceuticals, Inc., a biotechnology company, since 2014, Tetraphase Pharmaceuticals, Inc. since 2012, and Proteon Therapeutics, Inc., a biotechnology company, since 2014. Dr. Freund also serves on the board of directors of six U.S. registered investment funds managed by affiliates of the Capital Group, Inc. He also previously served on the board of directors of four publicly traded companies, Map Pharmaceuticals, Inc., a biopharmaceutical company, MAKO Surgical Corp., a medical device company, Concert Pharmaceuticals, Inc., a biopharmaceutical company and was Chairman of XenoPort, Inc., a biopharmaceutical company. Dr. Freund is a member of the Advisory Board for the Harvard Business School of Healthcare Initiative. Dr. Freund received a B.A. in History from Harvard College, an M.D. from Harvard Medical School, and an M.B.A. from Harvard Business School, where he was a Baker Scholar. We believe Dr. Freund's experience with medical device companies, his role in the venture capital industry, and his knowledge of our company enable him to make valuable contributions to our board of directors.

Gregory K. Hinckley has served as a member of our board of directors since January 2011. Mr. Hinckley has served as President of Mentor Graphics Corporation, an electronic design automation company, since January 1997 and served on the board of directors from January 1999 to June 2016. He has also served as the Chief Financial Officer of Mentor Graphics, first from January 1997 to July 2007 and again from December 2008 to present. Previously, he served on the board of directors of Super Micro Computer, Inc., a manufacturer of servers, from January 2009 to February 2015 and Intermec, Inc., a developer of automated identification and data collection solutions, from July 2004 to September 2013. From August 1992 to January 1997, Mr. Hinckley served as Senior Vice President, Finance of VLSI Technology, Inc., a designer and manufacturer of custom and semi-custom integrated circuits. From January 1989 to November 1991, he served as Senior Vice President and Chief Financial Officer of Crowley Maritime Corporation, a marine solutions, transportation, and logistics company. From February 1983 to January 1989, Mr. Hinckley served as Vice President and Chief Financial Officer of Bio-Rad Laboratories, a manufacturer and supplier of products and systems for the life science research and healthcare markets. Previously, Mr. Hinckley held a number of senior officer positions with Raychem Corporation, a developer of products and services for the aerospace, automotive and telecommunications industries. Hinckley received a B.A. in Physics from Claremont McKenna College and was a Fulbright Scholar in applied mathematics at Nottingham University. He received an M.S. in Applied Physics

from the University of California, San Diego and an M.B.A. from Harvard Business School. We believe Mr. Hinckley's financial experience, his familiarity of serving on the boards of public companies, and his knowledge of our company enable him to make valuable contributions to our board of directors.

Karen A. Licitra has served as a member of our board of directors since August 2015. From January 2014 through August 2015, Ms. Licitra served as Corporate Vice President, Worldwide Government Affairs & Policy at Johnson & Johnson, a medical devices, pharmaceutical, and consumer packaged goods manufacturer. From December 2011 to December 2013, Ms. Licitra served as the Worldwide Chairman, Global Medical Solutions at Johnson & Johnson. From July 2002 to November 2011, she served as the Company Group Chairman and Worldwide Franchise Chairman at Ethicon Endo-Surgery, Inc., a Johnson & Johnson medical device company. From January 2001 to June 2002, she served as the President of Ethicon Endo-Surgery. Ms. Licitra currently serves on the board of directors of Novadaq Technologies Inc., a provider of proven comprehensive fluorescence imaging solutions. Ms. Licitra received a B.S. in Commerce from Rider College. We believe Ms. Licitra's experience working for medical device companies and her knowledge of our company enable her to make valuable contributions to our board of directors.

Timothy B. Petersen has served as a member of our board of directors since June 2016. Since April 2002, Mr. Petersen has been employed by Arboretum Ventures, Inc. As a Managing Director of the firm, his investments primarily target capital-efficient medical device, health IT and services companies. Mr. Petersen has led investments and held board seats for Arboretum in more than fifteen companies, including HealthMedia (acquired by Johnson & Johnson), Accuri Cytometers (acquired by BD), IntelliCyt (acquired by Sartorius) and Inogen. Mr. Petersen currently serves on the boards of Advanced ICU Care, Concerto Health, KFx Medical, MyHealthDirect, and Pear Therapeutics in addition to our Company. Mr. Petersen holds a B.A. in Economics from Williams College, an M.S. in Economics from the University of Wisconsin-Madison, and an M.B.A. from the Ross School of Business at the University of Michigan. We believe Mr. Petersen's extensive investment experience in the healthcare industry and his experience as a public company director enable him to make valuable contributions to our board of directors.

Mark A. Reiley, M.D. has served as a member of our board of directors since our inception in April 2008 and as our Chief Medical Officer from inception to September 2016. Dr. Reiley has also served as Chief Medical Officer of Reiley Pharmaceuticals, Inc., a pharmaceutical company, since April 2014. Previously, Dr. Reiley was Chief Medical officer of Fixes-4-Kids, Inc. from March 2009 to October 2010. Prior to joining us, Dr. Reiley was the Chief Medical Officer of INBONE Technologies from December 2004 to April 2008, until its sale to Wright Medical Group in April 2008. From October 1990 to May 2007, Dr. Reiley was Chief Medical Officer of Kyphon Inc., a medical device company focused on the treatment of vertebral compression fractures of the spine, until its sale to Medtronic, Inc. (now Medtronic plc). During that period, from October 2001 to March 2005, Dr. Reiley was Chief Medical officer of Archus Orthopedics Inc., a total facet replacement medical device company. Dr. Reiley was also a founding member of Berkeley Orthopedics Surgical group, where he practiced for over 25 years and trained the students and faculty at the University of California at Berkeley. He has founded and served on the boards of various private companies. Dr. Reiley received a B.A. from Claremont Men's College and an M.D. from George Washington University School of Medicine, and he completed both his orthopedic residency and fellowship at the University of California at San Francisco. We believe Dr. Reiley's experience in the industry, his role as our former Chief Medical Officer, and his knowledge of our company enable him to make valuable contributions to our board of directors.

Keith C. Valentine has served as a member of our board of directors since August 2015. Since June 2015, Mr. Valentine has also served as President, Chief Executive Officer and a member of the board of directors of SeaSpine Holdings Corporation. From January 2007 to January 2015, he served as President and Chief Operating Officer of NuVasive, Inc., a medical device company. From December 2004 to January 2007, he served as President of NuVasive. From January 2001 to December 2004, he held various senior executive roles in marketing, development and operations at NuVasive. Previously, Mr. Valentine served as Vice President of Marketing at ORATEC Interventions, Inc., a medical device company acquired by Smith & Nephew PLC, and

spent eight years in various roles with Medtronic including Vice President of Marketing for the Thoracolumbar Division and Group Director for the BMP Biologics program, Interbody Sales Development, and International Sales and Marketing. Mr. Valentine received a B.B.A. in Management and Biomedical Sciences from Western Michigan University. We believe Mr. Valentine's experience working for medical device companies and his knowledge of our company enable him to make valuable contributions to our board of directors.

Family Relationships

There are no family relationships among any of our directors or executive officers.

Director Independence

We intend to apply to have our common stock listed on the Nasdaq Global Market. The listing rules of this stock exchange generally require that a majority of the members of a listed company's board of directors be independent within 12 months following the closing of an initial public offering. Our board of directors has determined that none of our non-employee directors has a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the rules of the Nasdaq Global Market. The independent members of our board of directors will hold separate regularly scheduled executive session meetings at which only independent directors are present.

Audit committee members must also satisfy the independence rules in Securities and Exchange Commission, or SEC, Rule 10A-3 adopted under the Securities Exchange Act of 1934, as amended. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a public company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee: accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries; or be an affiliated person of the listed company or any of its subsidiaries. Each of qualify as an independent director pursuant to Rule 10A-3. We also intend to satisfy the audit committee independence requirement of the Nasdaq Global Market.

Board Composition

Our board of directors currently consists of nine members, who were elected pursuant to the provision of a voting agreement and the related provisions of our amended and restated certificate of incorporation. Under the terms of this voting agreement, the stockholders who are party to the voting agreement have agreed to vote their respective shares to elect: (1) two directors designated by the holders of a majority of the then outstanding shares of Series 2 common, one of which will be our chief executive officer, currently Mr. Dunn and Dr. Reiley; (2) one director designated by Skyline Venture Partners Qualified Purchaser Fund V, L.P., currently Dr. Freund; (3) one director designated by Montreux Equity Partners IV, LP which is currently vacant; (4) four directors approved by a majority of the members of our board of directors and at least one of whom has relevant industry experience relating to our business, currently Mr. Hinckley, Mr. Davis, Ms. Licitra and Mr. Valentine; (5) one director designated by OrbiMed Advisors LLC or OrbiMed Private Investments V, LP, currently Dr. Bonita; and (6) one director designated by Arboretum IV, LP, currently Mr. Petersen.

The provisions of this voting agreement will terminate upon the closing of this offering, after which there will be no further contractual obligations regarding the election of our directors. Our directors hold office until their successors have been elected and qualified or appointed, or the earlier of their death, resignation or removal.

Immediately after this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

- the Class I directors will be , and their term will expire at the annual meeting of stockholders to be held in 2018;

- the Class II directors will be and their terms will expire at the annual meeting of stockholders to be held in 2019; and
- the Class III directors will be and their terms will expire at the annual meeting of stockholders to be held in 2020.

Directors in a particular class will be elected for three-year terms at the annual meeting of stockholders in the year in which their terms expire. As a result, only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Each director's term continues until the election and qualification of his or her successor, or the earlier of his or her death, resignation or removal.

Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the closing of this offering provide that only our board of directors can fill vacant directorships, including newly-created seats. Any additional directorships resulting from an increase in the authorized number of directors would be distributed among the three classes so that, as nearly as possible, each class would consist of one-third of the authorized number of directors.

The classification of our board of directors may have the effect of delaying or preventing changes in our control or management. See the section titled "Description of Capital Stock—Anti-Takeover Provisions—Certificate of Incorporation and Bylaws Provisions."

Board Oversight of Risk

One of the key functions of our board of directors is informed oversight of our risk management process. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure. Our executive officers are responsible for the day-to-day management of the material risks we face. Our board of directors administers its oversight function directly as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. For example, our audit committee is responsible for overseeing the management of risks associated with our financial reporting, accounting and auditing matters; our compensation committee oversees the management of risks associated with our compensation policies and programs; and our nominating and corporate governance committee oversees the management of risks associated with director independence, conflicts of interest, composition and organization of our board of directors and director succession planning.

Board Committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. Our board of directors may establish other committees to facilitate the management of our business. Our board of directors and its committees set schedules for meeting throughout the year and can also hold special meetings and act by written consent from time to time, as appropriate. Our board of directors has delegated various responsibilities and authority to its committees as generally described below. The committees will regularly report on their activities and actions to the full board of directors. Each member of each committee of our board of directors qualifies as an independent director in accordance with the listing standards of the Nasdaq Global Market. Each committee of our board of directors has a written charter approved by our board of directors. Upon the closing of this offering, copies of each charter will be posted on our website at www.si-bone.com under the Investor Relations section. The inclusion of our website address in this prospectus does not include or incorporate by reference the information on our website into this prospectus. Members serve on these committees until their resignation or until otherwise determined by our board of directors.

Audit Committee

Our audit committee consists of , and , each of whom satisfies the independence requirements under the Nasdaq Global Market listing standards and Rule 10A-3(b)(1) of the

Exchange Act. The chairman of our audit committee is . Our board of directors has determined that each of , and is an "audit committee financial expert" within the meaning of SEC regulations. Our board of directors has also determined that each member of our audit committee has the requisite financial expertise required under the applicable requirements of the Nasdaq Global Market. In arriving at this determination, the board of directors has examined each audit committee member's scope of experience and the nature of their employment in the corporate finance sector.

The primary purpose of the audit committee is to discharge the responsibilities of our board of directors with respect to our accounting, financial and other reporting and internal control practices and to oversee our independent registered public accounting firm. Specific responsibilities of our audit committee include:

- selecting a qualified firm to serve as the independent registered public accounting firm to audit our financial statements;
- helping to ensure the independence and performance of the independent registered public accounting firm;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, our interim and year-end operating results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing our policies on risk assessment and risk management;
- reviewing related party transactions;
- obtaining and reviewing a report by the independent registered public accounting firm at least annually, that describes our internal quality-control procedures, any material issues with such procedures, and any steps taken to deal with such issues when required by applicable law; and
- approving (or, as permitted, pre-approving) all audit and all permissible non-audit service to be performed by the independent registered public accounting firm.

Compensation Committee

Our compensation committee consists of , and , each of whom our board of directors has determined to be independent under the Nasdaq Global Market listing standards and the rules and regulations of the SEC, a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act and an "outside director" as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code. The chairman of our compensation committee is .

The primary purpose of our compensation committee is to discharge the responsibilities of our board of directors to oversee our compensation policies, plans and programs and to review and determine the compensation to be paid to our executive officers, directors and other senior management, as appropriate. Specific responsibilities of our compensation committee include:

- reviewing and approving, or recommending that our board of directors approve, the compensation of our executive officers;
- reviewing and recommending to our board of directors the compensation of our directors;
- reviewing and approving, or recommending that our board of directors approve, the terms of compensatory arrangements with our executive officers;
- administering our stock and equity incentive plans;

- selecting independent compensation consultants and assessing whether there are any conflicts of interest with any of the committee's compensation advisors;
- reviewing and approving, or recommending that our board of directors approve, incentive compensation and equity plans, severance agreements, change-of-control protections and any other compensatory arrangements for our executive officers and other senior management, as appropriate;
- reviewing and establishing general policies relating to compensation and benefits of our employees; and
- reviewing our overall compensation philosophy.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee consists of and , each of whom our board of directors has determined to be independent under the Nasdaq Global Market listing standards. The chairman of our nominating and corporate governance committee is .

Specific responsibilities of our nominating and corporate governance committee include:

- identifying, evaluating and selecting, or recommending that our board of directors approve, nominees for election to our board of directors;
- evaluating the performance of our board of directors and of individual directors;
- reviewing developments in corporate governance practices;
- evaluating the adequacy of our corporate governance practices and reporting;
- reviewing management succession plans; and
- developing and making recommendations to our board of directors regarding corporate governance guidelines and matters.

Code of Conduct

Our board of directors has adopted a Code of Conduct. The Code applies to all of our employees, officers, directors, contractors, consultants, suppliers, and agents. Upon the closing of this offering, the full text of our code of conduct will be posted on our website at www.si-bone.com under the Investor Relations section. We intend to disclose future amendments to, or waivers of, our Code, as and to the extent required by SEC regulations, at the same location on our website identified above and in public filings. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider information contained on our website to be part of this prospectus or in deciding whether to purchase shares of our common stock.

Compensation Committee Interlocks and Insider Participation

As noted above, the compensation committee of our board of directors consists of . During 2016, our compensation committee consisted of Dr. Bonita, Mr. Davis and Ms. Licitra. None of our executive officers serves, or served during 2016, as a member of the board of directors or compensation committee of any other entity that has or has had one or more executive officers serving as a member of our board of directors or our compensation committee.

Non-Employee Director Compensation

Currently, we pay our non-employee directors who are not representatives of our stockholders a fee of $2,000 per month as compensation for their service on our board of directors. We also have a policy of reimbursing all of our non-employee directors for their reasonable out-of-pocket expenses in connection with attending board of directors and committee meetings. From time to time we have granted stock options to certain

of our non-employee directors, typically in connection with a non-employee director's initial appointment to our board of directors.

We expect that our board of director will adopt a non-employee director compensation policy to be effective upon the closing of this offering.

2016 Non-Employee Director Compensation Table

The following table sets forth information regarding the compensation paid to our non-employee directors during 2016.

Name	Fees Earned or Paid in Cash	Option Awards(1)(2)	All Other Compensation	Total
David P. Bonita, M.D.	—	—	—	—
Timothy E. Davis, Jr.	$ 24,000	$ 22,610	—	$ 46,610
John G. Freund, M.D.	—	—	—	—
Gregory K. Hinckley	24,000	22,610	—	46,610
Karen A. Licitra	24,000	28,256	—	43,298
Timothy B. Petersen	—	—	—	—
Mark A. Reiley, M.D.(3)	78,779	66,199	$ 7,041	152,019
Keith C. Valentine(7)	24,000	28,256	—	43,298

(1) The amount shown in this column does not reflect dollar amount actually received by the director. Instead, this amount represents the aggregate grant date fair value of option awards granted to the director in 2016, as computed in accordance with FASB ASC Topic 718 and the incremental fair value of stock options repriced in July 2016. Assumptions used in the calculation of these amounts are included in Note 10 to our audited consolidated financial statements included elsewhere in this prospectus. As required by SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. Our directors will only realize compensation to the extent the trading price of our common stock is greater than the exercise price of this stock option.

(2) In July 2016, we granted options to purchase (a) 217,163 shares to each of Mr. Davis and Mr. Hinckley, (b) 185,349 shares to each of Ms. Licitra and Mr. Valentine, and (c) 635,820 shares to Dr. Reiley, each with an exercise price of $0.24 per share. The shares subject to these options vests in equal monthly installments over four years of service and are early exercisable. The options granted to Mr. Davis, Mr. Hinckley, Ms. Licitra and Mr. Valentine will fully vest in the event of a change in control before such director' service terminates. The option granted to Dr. Reiley will fully vest in the event of a change in control before Dr. Reiley's service terminates, provided Dr. Reiley agrees to provide services to the surviving entity for a period not to exceed six months. The table below lists the aggregate number of shares subject to outstanding stock options held by each of our non-employee directors.

Name	Number of Shares Subject to Outstanding Options as of December 31, 2016
David P. Bonita, M.D.	—
Timothy E. Davis, Jr.	597,163
John G. Freund, M.D.	—
Gregory K. Hinckley	—
Karen A. Licitra	385,349
Timothy B. Petersen	—
Mark A. Reiley, M.D.	3,719,052
Keith C. Valentine	385,349

(3) Reflects salary and severance payments received as an employee. Dr. Reiley did not receive any additional compensation for service on our board of directors.

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table sets forth information regarding the compensation of our chief executive officer and our two other most highly compensated executive officers during the year ended December 31, 2016. We refer to these individuals as our "named executive officers."

Name and Principal Position	Year	Salary	Incentive Compensation	Option Award(1)	Total
Jeffrey W. Dunn *President and Chief Executive Officer*	2016	$434,563	$ 175,924(2)	$ 292,912	$825,823
Laura A. Francis *Chief Financial Officer*	2016	299,237	84,298(2)	186,407	424,547
W. Carlton Reckling, M.D. *Chief Medical Officer*	2016	269,102	64,750(2)	33,490	358,477

(1) Represents the aggregate grant date fair value of option awards granted to the officer in 2016 and the incremental fair value of stock options repriced in July 2016, computed in accordance with FASB ASC Topic 718. For a discussion of the assumptions made in determining the grant date fair value of our equity awards, see Note 2 to our audited consolidated financial statements included elsewhere in this prospectus.

(2) Represents semi-annual incentive compensation payments pursuant to our 2016 corporate goals, which were paid in July 2016 and January 2017. Our executive officers received incentive compensation for the achievement of certain goals including revenue growth, cash flow, expense, profitability management, reimbursement progress and clinical milestones. Our executive officers achieved 85% and 75% of goals for the first and second halves of 2016, respectively.

Emerging Growth Company Status

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or JOBS Act. As an emerging growth company we will be exempt from certain requirements related to executive compensation, including, but not limited to, the requirements to hold a nonbinding advisory vote on executive compensation and to provide information relating to the ratio of total compensation of our Chief Executive Officer to the median of the annual total compensation of all of our employees, each as required by the Investor Protection and Securities Reform Act of 2010, which is part of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

Outstanding Equity Awards as of December 31, 2016

The following table sets forth information regarding each unexercised stock option and all unvested stock held by each of our named executive officers as of December 31, 2016. Unless otherwise indicated below, all of these awards were made pursuant to our 2008 Stock Plan.

The vesting schedule applicable to each outstanding award is described in the footnotes to the table below. For information regarding the vesting acceleration provisions applicable to our named executive officers' equity awards, see the section titled "Employment Arrangements—Severance and Change in Control Agreements" below.

Many of the options granted to our named executive officers are immediately exercisable with respect to all of the option shares, subject to our repurchase right in the event the officer's service terminates prior to vesting in the shares. We refer to option shares that are subject to our right of repurchase as "unvested shares" and those that are no longer subject to our right of repurchase as "vested" shares.

	Option Awards						Stock Awards	
Name	Grant Date	Vesting Commencement Date	Number of Securities Underlying Unexercised Options Vested (#)	Number of Securities Underlying Unexercised Options Unvested (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(1)
Jeffrey W. Dunn	10/24/11	09/21/11	480,175	—	0.12	10/23/21	—	—
	07/21/14	04/22/14	2,966,195	1,943,369(2)	0.19	07/20/24	—	—
	05/26/15	04/15/15	760,804	1,065,126(2)	0.24(4)	05/25/25	—	—
	07/26/16	06/02/16	258,529	1,809,707(2)	0.24	07/25/26	—	—
	01/16/14	01/01/14	—	—	—	—	300,578(3)	—
Laura A. Francis	05/26/15	05/26/15	1,357,198	2,071,513(2)	0.24(4)	05/25/25	—	—
	07/26/16	06/02/16	49,238	344,669(2)	0.24	07/25/26	—	—
W. Carlton Reckling, Ph.D.	09/02/10	07/01/10	20,000	—	0.05	09/02/20	—	—
	03/18/13	03/05/12	1,250,000	—	0.22	03/17/23	—	—
	01/16/14	01/01/14	109,595	40,707(2)	0.18	01/15/24	—	—
	07/21/14	04/22/14	286,391	143,196(2)	0.19	07/20/24	—	—
	05/26/15	04/15/15	87,002	121,802(2)	0.24(4)	05/25/25	—	—
	07/26/16	06/02/16	29,564	206,948(2)	0.24	07/25/26	—	—

(1) Pursuant to SEC rules, market value is based on the fair market value of our common stock on December 31, 2016. As there was no public market for our common stock on December 31, 2016, we have assumed that the fair market value on December 31, 2016 was $ per share, which represents the midpoint of the range set forth on the cover page of this prospectus.

(2) Option vests over four years of service from the vesting commencement date specified above, with 1/48th of the option shares vesting monthly.

(3) Represents the unvested portion of shares of our common stock purchased upon early exercise of options. The option vests over 4 years of service from the vesting commencement date specified above.

(4) This stock option was repriced in July 2016.

Pension Benefits

Our named executive officers did not participate in, or otherwise, receive any benefits under, any pension or retirement plan sponsored by us in 2016.

Nonqualified Deferred Compensation

Our named executive officers did not participate in, or earn any benefits under, a non-qualified deferred compensation plan sponsored by us in 2016.

Employment Arrangements

We have entered into employment agreements with each of our named executive officers setting forth the initial terms of the officer's employment with us and providing that the officer's employment will be "at will" and may be terminated at any time. The severance benefits for our named executive officers are described in "Severance and Change in Control Agreements" below.

Employment Agreements

Jeffrey W. Dunn

In December 2009, we entered into an offer letter with Jeffrey W. Dunn, our President and Chief Executive Officer. Mr. Dunn's annual base salary as of January 1, 2017 was $437,750. Under the terms of Mr. Dunn's offer letter, if he is subject to an "involuntary termination," then we will continue to pay his base salary and reimburse his COBRA premiums for up to 12 months. An involuntary termination occurs if Mr. Dunn's employment is terminated by us without "cause" at any time or if he resigns for "good reason" within 12 months after a "change in control" (as such terms are defined in the offer letter). These severance benefits are contingent on Mr. Dunn's return of all of our property, execution of a release of claims, and resignation from our board of directors, if applicable.

Upon the closing of this offering, Mr. Dunn's annual base salary will be increased to $445,000 and Mr. Dunn will be eligible for annual variable compensation up to 65% of his base salary. In addition, in March 2017, Mr. Dunn was granted a stock option for 2,272,700 shares of common stock with an exercise price of $0.33 per share. This option will vest in 48 equal monthly amounts commencing on the closing of this offering.

Laura A. Francis

In April 2015, we entered into an offer letter with Laura A. Francis, our Chief Financial Officer. Ms. Francis' annual base salary as of January 1, 2017 was $302,315. Under the terms of her offer letter, Ms. Francis was granted an option to purchase a number of shares of common stock equal to 1.25% of the fully-diluted capitalization as of her first day of employment, or 3,328,711 shares, with an exercise price of $0.44 per share. The shares subject to this option vest as to 25% on the 12-month anniversary of May 26, 2015 and 1/36th of the balance of the shares vest each month thereafter, subject to Ms. Francis' continued service with us through each relevant vesting date. Ms. Francis' offer letter provides that she will vest in 50% of the unvested option shares if (a) we are subject to a change in control (as defined in the offer letter) before her service with us terminates and (b) she is subject to an involuntary termination (as defined in the offer letter) within 12 months after the change in control. In addition, in the event of Ms. Francis' termination for any reason other than for cause (as defined in the offer letter) we will make a lump sum payment to her equal to three months of her then-current base salary. These severance benefits are contingent on Ms. Francis' return of all of our property and execution of a release of claims.

In March 2017, we entered into an amended and restated letter agreement with Ms. Francis that provides that she will be eligible to receive a bonus of $200,000 if we complete a qualified IPO (as defined in the letter agreement) and she remains an employee in good standing through the date that is 30 trading days after such qualified IPO, which will be paid 60 days thereafter.

Upon the closing of this offering, Ms. Francis's annual base salary will be increased to $320,000 and Ms. Francis will be eligible for annual variable compensation up to 40% of her base salary. In addition, in March

2017, Ms. Francis was granted a stock option for 696,150 shares of common stock with an exercise price of $0.33 per share. This option will vest in 48 equal monthly amounts commencing on the closing of this offering.

W. Carlton Reckling, M.D.

In February 2012, we entered into an offer letter with W. Carlton Reckling, our Chief Medical Officer. Dr. Reckling's annual base salary as of February 1, 2017 was $300,000. Under the terms of his offer letter, we will reimburse Dr. Reckling for (i) all reasonable subscriptions, dues and continuing medical education in order for him to maintain his medical certifications, (b) his attainment of an M.B.A that is mutually agreed upon and (c) insurance "tail" coverage for his past medical practice.

In March 2017, Dr. Reckling was granted a stock option for 402,550 shares of common stock with an exercise price of $0.33 per share. This option will vest in 48 equal monthly amounts commencing on the closing of this offering.

Severance and Change in Control Agreements

In March 2016, we entered into severance letter agreements with each of Ms. Francis and Dr. Reckling. These agreements provide that in the event we terminate such officer for any reason other than for cause (as defined in the letter agreement), we will provide the officer the following benefits within 60 calendar days of the officer's termination date:

- A lump-sum payment equal to three months of the officer's then-current base salary; and
- A lump sum payment in the amount of $5,700.

These agreements further provide that in the event we terminate such officer for any reason other than for cause or if the officer resigns for good reason (as defined in the letter agreement) either three months prior to or twelve months following the consummation of a change in control (as defined in the letter agreement), we will provide the officer the following benefits within 60 calendar days of the officer's termination date:

- A lump-sum payment equal to six months of the officer's then-current base salary;
- A lump sum payment in the amount of $11,300;
- Accelerated vesting of any unvested option shares such that 100% of the unvested option shares shall vest as of the officer's termination date; and
- A lump-sum equal to the officer's target annual bonus, prorated for partial months of service prior to the officer's termination date.

These severance benefits are contingent on the officer returning all of our property, continued adherence to the terms and condition of the proprietary information and inventions agreement between us and the officer, (c) resignation from our board of directors, if applicable, and (d) execution and non-revocation of a release of claims. The severance letter agreement for Ms. Francis supersede the acceleration provisions set forth in her offer letter.

Equity Acceleration

Mr. Dunn's options for 4,909,546 shares granted in July 2014 and for 2,068,236 shares granted in July 2016 will fully vest if we are subject to a change in control before Mr. Dunn's service terminates, provided he agrees to provide services to the acquiring company for a period not to exceed six months. Mr. Dunn's option for 1,825,930 shares granted in May 2015, will vest as to 50% of the option shares if we are subject to a change in control.

In the case of all the options granted to Ms. Francis and Dr. Reckling, the accelerated vesting of any unvested option shares will occur as set forth above in “Severance and Change in Control Agreements.”

Equity Plans

The principal features of our equity plans are summarized below. These summaries are qualified in their entirety by reference to the actual verbiage of the plans, which are filed as exhibits to the registration statement of which this prospectus is a part.

2017 Equity Incentive Plan

Our board of directors adopted our 2017 Equity Incentive Plan, or the 2017 Plan, in 2017, and our stockholders subsequently approved the 2017 Plan in 2017. The 2017 Plan will become effective on the date the registration statement of which this prospectus forms a part is declared effective by the SEC. Once the 2017 Plan becomes effective, no further grants will be made under our 2008 Stock Plan, which is described below.

Our 2017 Plan provides for the grant of incentive stock options, or ISOs, within the meaning of Section 422 of the Code, to our employees and our parent and subsidiary corporations’ employees, and for the grant of nonstatutory stock options, or NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other forms of equity compensation to our employees, directors and consultants. Addition, our 2017 Plan provides for the grant of performance cash awards to our employees, directors and consultants.

Share Reserve. The maximum number of shares of our common stock that may be issued under our 2017 Plan is . The number of shares of our common stock reserved for issuance under our 2017 Plan will automatically increase on January 1 of each year, beginning on January 1, 2018, and continuing through and including January 1, 2027, by 5% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. The maximum number of shares that may be issued upon the exercise of ISOs under our 2017 Plan is three times the share reserve.

Shares issued under our 2017 Plan will be authorized but unissued or reacquired shares of our common stock. Shares subject to stock awards granted under our 2017 Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, will not reduce the number of shares available for issuance under our 2017 Plan. Additionally, shares issued pursuant to stock awards under our 2017 Plan that we repurchase or that are forfeited, as well as shares used to pay the exercise price of a stock award or to satisfy the tax withholding obligations related to a stock award, will become available for future grant under our 2017 Plan.

Plan Administration. Our board of directors, or a duly authorized committee of our board of directors, will administer our 2017 Plan. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified stock awards, and (2) determine the number of shares subject to such stock awards. Subject to the terms of our 2017 Plan, the board of directors has the authority to determine the terms of awards, including recipients, the exercise, purchase or strike price of stock awards, if any, the number of shares subject to each stock award, the fair market value of a share of our common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise or settlement of the award and the terms of the award agreements for use under our 2017 Plan.

Our board of directors has the power to modify outstanding awards under our 2017 Plan. Our board of directors has the authority to reprice any outstanding option or stock appreciation right, cancel any outstanding

stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

Section 162(m) Limits. At such time as necessary for compliance with Section 162(m) of the Code, no participant may be granted stock awards covering more than 1,000,000 shares of our common stock under our 2017 Plan during any calendar year pursuant to stock options, stock appreciation rights and other stock awards whose value is determined by reference to an increase over an exercise price or strike price of at least 100% of the fair market value of our common stock on the date of grant. Additionally, no participant may be granted in a calendar year a performance stock award covering more than 1,000,000 shares of our common stock or a performance cash award having a maximum value in excess of $1 million under our 2017 Plan. These limitations are designed to allow us to grant compensation that will not be subject to the $1,000,000 annual limitation on the income tax deductibility of compensation paid to a covered executive officer imposed by Section 162(m) of the Code.

Stock Options. Incentive stock options and nonstatutory stock options are granted pursuant to stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2017 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2017 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

Restricted Stock Unit Awards. Restricted stock unit awards are granted pursuant to restricted stock unit award agreements adopted by the plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration that may be acceptable to our board of directors and permissible under applicable law. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the plan administrator or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

Restricted Stock Awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft or money order, past services to us or any other form of legal consideration (including future services) that may be acceptable to our board of directors and permissible under applicable law. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with us ceases for any reason, we may receive through a forfeiture condition or a repurchase right any or all of the shares of common stock held by the participant that have not vested as of the date the participant terminates service with us.

Stock Appreciation Rights. Stock appreciation rights are granted pursuant to stock appreciation grant agreements adopted by the plan administrator. The plan administrator determines the purchase price or strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our common stock on the date of grant. A stock appreciation right granted under the 2017 Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator.

Performance Awards. Our 2017 Plan permits the grant of performance-based stock and cash awards that may qualify as performance-based compensation that is not subject to the $1,000,000 limitation on the income tax deductibility of compensation paid to a covered executive officer imposed by Section 162(m) of the Code. Our compensation committee can structure such awards so that the stock or cash will be issued or paid pursuant to such award only following the achievement of certain pre-established performance goals during a designated performance period.

Our compensation committee may establish performance goals by selecting from one or more of the following performance criteria: (1) earnings (including earnings per share and net earnings); (2) earnings before interest, taxes and depreciation; (3) earnings before interest, taxes, depreciation and amortization; (4) total stockholder return; (5) return on equity or average stockholder's equity; (6) return on assets, investment, or capital employed; (7) stock price; (8) margin (including gross margin); (9) income (before or after taxes); (10) operating income; (11) operating income after taxes; (12) pre-tax profit; (13) operating cash flow; (14) sales or revenue targets; (15) increases in revenue or product revenue; (16) expenses and cost reduction goals; (17) improvement in or attainment of working capital levels; (18) economic value added (or an equivalent metric); (19) market share; (20) cash flow; (21) cash flow per share; (22) share price performance; (23) debt reduction; (24) customer satisfaction; (25) stockholders' equity; (26) capital expenditures; (27) debt levels; (28) operating profit or net operating profit; (29) workforce diversity; (30) growth of net income or operating income; (31) billings; (32) pre-clinical development related compound goals; (33) financing; (34) regulatory milestones, including approval of a compound; (35) stockholder liquidity; (36) corporate governance and compliance; (37) product commercialization; (38) intellectual property; (39) personnel matters; (40) progress of internal research or clinical programs; (41) progress of partnered programs; (42) partner satisfaction; (43) budget management; (44) clinical achievements; (45) completing phases of a clinical study (including the treatment phase); (46) announcing or presenting preliminary or final data from clinical studies; in each case, whether on particular timelines or generally; (47) timely completion of clinical trials; (48) submission of INDs and NDAs and other regulatory achievements; (49) partner or collaborator achievements; (50) internal controls, including those related to the Sarbanes-Oxley Act of 2002; (51) research progress, including the development of programs; (52) investor relations, analysts and communication; (53) manufacturing achievements (including obtaining particular yields from manufacturing runs and other measurable objectives related to process development activities); (54) strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property; (55) establishing relationships with commercial entities with respect to the marketing, distribution and sale of the Company's products (including with group purchasing organizations, distributors and other vendors); (56) supply chain achievements (including establishing relationships with manufacturers or suppliers of active pharmaceutical ingredients and other component materials and manufacturers of the Company's products); (57) co-development, co-marketing, profit sharing, joint venture or other similar arrangements; and (58) to the extent that an award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by our board or compensation committee (as applicable)not intended to comply with Section 162(m) of the Code, other measures of performance selected by our board.

Our compensation committee may establish performance goals on a company-wide basis, with respect to one or more business units, divisions, affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise (1) in the award agreement at the time the award is granted or (2) in such other document setting forth the performance goals at the time the goals are established, our compensation committee (or, to the extent that an award is not intended to qualify as "performance-based compensation" under Section 162(m) of the Code, our board) will appropriately make adjustments in the method of calculating the attainment of the performance goals as follows; *provided*, *however*, that to the extent that an award is intended to qualify as "performance-based compensation" under Section 162(m) of the Code, any such adjustment may be made only if such adjustment is objectively determinable and specified in the award agreement at the time the award is granted or in such other document setting forth the performance goals for the award at the time the performance goals are established: (a) to exclude restructuring and/or other nonrecurring charges; (b) to exclude exchange rate effects; (c) to exclude the effects of changes to generally accepted accounting principles; (d) to exclude the effects of any statutory adjustments to corporate tax rates; and (e) to exclude the effects of any items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (f) to exclude the dilutive effects of acquisitions or joint ventures; (g) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (h) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common

stockholders other than regular cash dividends; (i) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (j) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; (k) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; and (l) to exclude the effect of any other unusual, non-recurring item of gain or loss.

Other Stock Awards. The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

Changes to Capital Structure. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2017 Plan, (2) the class and maximum number of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued upon the exercise of incentive stock options, (4) the class and maximum number of shares subject to stock awards that can be granted in a calendar year (as established under the 2017 Plan pursuant to Section 162(m) of the Code) and (5) the class and number of shares and exercise price, strike price or purchase price, if applicable, of all outstanding stock awards.

Corporate Transactions. Our 2017 Plan provides that in the event of certain specified significant corporate transactions including: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) the consummation of a merger or consolidation where we do not survive the transaction and (4) the consummation of a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding prior to such transaction are converted or exchanged into other property by virtue of the transaction, each outstanding award will be treated as the plan administrator determines unless otherwise provided in an award agreement or other written agreement between us and the award holder. The administrator will take one of the following actions with respect to such awards (1) arrange for the assumption, continuation or substitution of a stock award by a successor corporation; (2) arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation; (3) accelerate the vesting, in whole or in part, of the stock award and provide for its termination prior to the transaction; (4) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us; or (6) cancel or arrange for the cancellation of the stock award in exchange for a payment, in the form determined by the board, equal to the excess, if any, of the per share amount (or value of property per share) payable to holders of our common stock in connection with the transaction over any exercise price payable by the participant in connection with the exercise, multiplied by the number of shares subject to the stock award. Such payment may be subject to vesting based on the participant's continuing service, provided that the vesting schedule shall be no less favorable to the holder than the schedule under which the stock award would have become vested and/or exercisable. Any escrow, holdback, earnout or similar provisions in the definitive agreement for the transaction may apply to such payment to the holder of a stock award to the same extent and in the same manner as such provisions apply to holders of our common stock. The plan administrator is not obligated to treat all stock awards or portions of stock awards, even those that are of the same type, in the same manner.

In the event of a change in control, awards granted under the 2017 Plan will not receive automatic acceleration of vesting and/or exercisability, although this treatment may be provided for in an award agreement. Under the 2017 Plan, a change in control generally will be deemed to occur in the event: (i) a person, entity or group acquires, directly or indirectly, our securities representing more than 50% of the combined voting power of our then outstanding securities, other than by virtue of a merger, consolidation, or similar transaction; (ii) there is consummated a merger, consolidation, or similar transaction and, immediately after the consummation of such transaction, our stockholders immediately prior thereto do not own, directly or indirectly, more than 50% of the combined outstanding voting power of the surviving entity or the parent of the surviving entity in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction; (iii) there is consummated a sale or other disposition of all or substantially all of our consolidated

assets, other than a sale or other disposition to an entity in which more than 50% of the entity's combined voting power is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such sale or other disposition; or (iv) a majority of our Board becomes comprised of individuals whose nomination, appointment, or election was not approved by a majority of the Board members or their approved successors.

Transferability. A participant may not transfer stock awards under our 2017 Plan other than by will, the laws of descent and distribution or as otherwise provided under our 2017 Plan.

Plan Amendment or Termination. Our board of directors has the authority to amend, suspend, or terminate our 2017 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. No ISOs may be granted after the tenth anniversary of the date our board of directors adopted our 2017 Plan. No stock awards may be granted under our 2017 Plan while it is suspended or after it is terminated.

2017 Employee Stock Purchase Plan

Our board of directors adopted our 2017 Employee Stock Purchase Plan, or the ESPP, in 2017, and our stockholders subsequently approved the ESPP in 2017. The ESPP will become effective immediately upon the execution and delivery of the underwriting agreement related to this offering. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code.

Share Reserve. The maximum aggregate number of shares of our common stock that may be issued pursuant to the exercise of purchase rights under our ESPP that are granted to our employees or to employees of any of our designated affiliates is 9,444,922 shares. Additionally, the number of shares of our common stock reserved for issuance under our ESPP will increase automatically each year, beginning on January 1, 2018, and continuing through and including January 1, 2027, by the lesser of (1) 1% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, (2) 10,000,000 shares or (3) a lesser number of shares as determined by our board of directors. Shares subject to purchase rights granted under our ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under our ESPP.

Administration. Our board of directors, or a duly authorized committee thereof, will administer our ESPP. Our board of directors has delegated concurrent authority to administer our ESPP to our compensation committee under the terms of the compensation committee's charter. The ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings (as defined in the ESPP) for the purchase of our common stock under the ESPP. Unless otherwise determined by our board of directors, common stock will be purchased for the accounts of employees participating in the ESPP at a price per share equal to the lower of (a) 85% of the fair market value of a share of our common stock on the first date of an offering or (b) 85% of the fair market value of a share of our common stock on the date of purchase. For the initial offering, which will commence upon the execution and delivery of the underwriting agreement relating to this offering, the fair market value on the first day of the initial offering will be the price at which shares are first sold to the public.

Limitations. Our employees, including executive officers, or any of our designated affiliates may have to satisfy one or more of the following service requirements before participating in our ESPP, as determined by the administrator: (1) customary employment with us or one of our affiliates for more than 20 hours per week and more than five months per calendar year, or (2) continuous employment with us or one of our affiliates for a minimum period of time, not to exceed two years, prior to the first date of an offering. An employee may not be granted rights to purchase stock under our ESPP if such employee (1) immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of our common stock, or (2) holds rights to purchase stock under our ESPP that would accrue at a rate that exceeds $25,000 worth of our common stock based on the fair market value per share of our common stock at the beginning of an offering for each calendar year that the purchase rights remain outstanding.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or similar transaction, the board of directors will make appropriate adjustments to (1) the number of shares reserved under the ESPP, (2) the maximum number of shares by which the share reserve may increase automatically each year, (3) the number of shares and purchase price of all outstanding purchase rights and (4) the number of shares that are subject to purchase limits under an offering.

Corporate Transactions. In the event of certain significant corporate transactions including: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) the consummation of a merger or consolidation where we do not survive the transaction and (4) the consummation of a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction, any then-outstanding rights to purchase our stock under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within 10 business days prior to such corporate transaction, and such purchase rights will terminate immediately after such purchase.

ESPP Amendments, Termination. Our board of directors has the authority to amend or terminate our ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to our ESPP as required by applicable law or listing requirements.

2008 Stock Plan

General. Our board of directors adopted the 2008 Stock Plan in April 2008, and it was approved by our stockholders in February 2009. We have subsequently amended the 2008 Stock Plan, with the most recent amendment occurring in March 2017, the purpose of which was to increase the number of shares available for issuance under the 2008 Stock Plan. Our stockholders approved this recent amendment in 2017. No further awards will be made under the 2008 Stock Plan following this offering; however, awards outstanding under the 2008 Stock Plan will continue in full effect in accordance with their existing terms.

Share Reserve. As of December 31, 2016, we have reserved 88,501,442 shares of our common stock for issuance under the 2008 Stock Plan. As of December 31, 2016, options to purchase 44,322,182 shares of common stock, at exercise prices ranging from $0.015 to $0.54 per share, or a weighted-average exercise price of $0.20 per share, were outstanding under the 2008 Stock Plan, and 5,670,695 shares of common stock remained available for future issuance under the 2008 Stock Plan. Unissued shares subject to awards that expire or are cancelled, award shares reacquired by us and shares withheld in payment of the purchase price or exercise price of an award or in satisfaction of withholding taxes will again become available for issuance under the 2008 Stock Plan until the expiration date of the 2008 Stock Plan, as described above.

Administration. Our board of directors has administered the 2008 Stock Plan since its adoption, however, following this offering, the compensation committee of our board of directors will generally administer the 2008 Stock Plan. The administrator has complete discretion to make all decisions relating to the 2008 Stock Plan and the outstanding awards, including the authority to accept the cancellation of outstanding options (whether granted by us or another issuer) in return for the grant of new options for the same or a different number of shares and at the same or a different exercise price

Types of Awards. The 2008 Stock Plan provides for both the direct grant or sale of shares of our common stock and for the grant of options to purchase shares of our common stock. The 2008 Stock Plan allows for the grant of both incentive and nonstatutory stock options.

Eligibility. Employees, non-employee members of our board of directors and consultants are eligible to participate in the 2008 Stock Plan. However, only employees are eligible to receive incentive stock options.

Options. The exercise price of options granted under the 2008 Stock Plan may not be less than 100% of the fair market value of our common stock on the grant date. Options expire at the time determined by the administrator, but in no event more than ten years after they are granted, and generally expire earlier if the optionee's service terminates.

Corporate Transactions. In the event that we are a party to a merger or consolidation, shares acquired under the 2008 Stock Plan will be subject to the agreement of merger or consolidation, which agreement need not treat all options in an identical manner. Such agreement will provide for one or more of the following with respect to outstanding options:

- The continuation, assumption or substitution of the option by the surviving entity or its parent;
- Full vesting and exercisability of the option, followed by cancellation of the option if not exercised prior to the transaction; or
- Cancellation of the option in exchange for a payment equal to the excess, if any, of the fair market value of the shares subject to the option over the exercise price per share of the option. Such payment may be subject to vesting based on the optionee's continuing service, generally in accordance with the original vesting schedule applicable to the option.

Changes in Capitalization. In the event of certain specified changes in the capital structure of our common stock, such as a stock split, reverse stock split, stock dividend, reclassification or any other increase or decrease in the number of issued shares of stock effective without receipt of consideration by us, proportionate adjustments will automatically be made in each of (i) the number of shares available for future grants under the 2008 Stock Plan, (ii) the number of shares covered by each outstanding option, and (iii) the exercise price per share subject to each outstanding option. In the event of an extraordinary cash dividend that has a material effect on the fair market value of our common stock, a recapitalization, spin-off, or other similar occurrence, the administrator at its sole discretion may make appropriate adjustments to one or more of the foregoing.

Amendments or Termination. The administrator may at any time amend, suspend or terminate the 2008 Stock Plan, subject to stockholder approval in the case of certain amendments. The 2008 Stock Plan will terminate upon the closing of this offering.

401(k) Plan

We maintain a 401(k) plan for employees. The 401(k) is intended to be qualified under Section 401(k) of the Code (as defined below), with the related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan by eligible U.S. employees or by us, and the investment earnings thereon, are not taxable to the employees until withdrawn, and so that contributions by us, if any, will be deductible by us when made. Employees may elect to reduce their current compensation by up to the

statutorily prescribed annual limits and to have the amount of such reduction contributed to the 401(k) plan. The 401(k) plan permits us to make contributions up to the limits allowed by law on behalf of all eligible employees. We have not made any company contributions to the 401(k) plan to date.

Health and Welfare Benefits

All our named executive officers are eligible to participate in our employee benefit plans, including our medical, dental and vision insurance plan, in each case on the same basis as all of our other employees.

Limitation on Liability and Indemnification of Directors and Officers

Upon the closing of this offering, our amended and restated certificate of incorporation will contain provisions that limit the liability of our current and former executive officers and directors for monetary damages to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable for monetary damages for any breach of fiduciary duties as directors, except liability:

- for any transaction from which the director derives an improper personal benefit;
- for any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law (unlawful payment of dividends or redemption of shares); or
- for any breach of a director's duty of loyalty to the corporation or its stockholders.

Such limitation of liability does not apply to liabilities arising under federal securities laws and does not affect the availability of equitable remedies, such as injunctive relief or rescission.

Our amended and restated certificate of incorporation and our amended and restated bylaws will provide that we are required to indemnify our executive officers and directors to the fullest extent permitted by Delaware law. Our amended and restated bylaws will also provide that, upon satisfaction of certain conditions, we shall advance expenses incurred by an executive officer and director in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide our board of directors with discretion to indemnify our other officers, employees and other agents when determined appropriate by the board. We have entered and expect to continue to enter into agreements to indemnify our directors and executive officers. With certain exceptions, these agreements provide for indemnification for related expenses including, among other things, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain customary directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and bylaws may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions. At present, there is no pending litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought and we are not aware of any threatened litigation that may result in claims for indemnification.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a description of transactions since January 1, 2014 to which we have been a party in which the amount involved exceeded $120,000 and in which any of our executive officers, directors, promoters or beneficial holders of more than 5% of our capital stock had or will have a direct or indirect material interest, other than compensation arrangements which are described in "Management—Non-Employee Director Compensation" and "Executive Compensation."

Sale of Series 5 Preferred Stock

In April 2014, in connection with the conversion of convertible notes payable and interest, we issued 4,501,808 shares of Series 5 preferred stock at a purchase price of $0.51 per share for an aggregate purchase price of $2,274,764.

The following table summarizes purchases of shares of Series 5 preferred stock by our executive officers, directors and holders of more than 5% of our capital stock.

Purchaser	Number of Shares	Aggregate Consideration
Skyline Venture Partners V, L.P.(1)	3,231,526	$ 1,632,890
Montreux Equity Partners IV, L.P.(2)	1,270,282	641,874
Total	4,501,808	$ 2,274,764

(1) John G. Freund, M.D., a member of our board of directors, is a Managing Director at Skyline Venture Partners.
(2) John J. Savarese, M.D., a former member of our board of directors, was a Managing Director at Montreux Equity Partners.

Sale of Series 6 Preferred Stock

In April 2014, we issued and sold 36,061,625 shares of Series 6 preferred stock at a purchase price of $0.92 per share for an aggregate purchase price of $32,999,993. In April and June 2015, we completed additional sales of 23,685,652 shares of Series 6 preferred stock at a purchase price of $0.92 per share for an aggregate purchase price of $21,674,741.

The following table summarizes purchases of shares of Series 6 preferred stock by our executive officers, directors and holders of more than 5% of our capital stock.

Purchaser	Number of Shares	Aggregate Consideration
Redline Capital Management S.A.	14,206,097	$ 12,999,999
Skyline Venture Partners V, L.P.(1)	11,742,252	10,745,335
Entities affiliated with Montreux Equity Partners(2)	11,031,787	10,095,188
OrbiMed Private Investments V, LP(3)	10,301,872	9,427,243
Gregory K. Hinckley(4)	382,471	350,000
Timothy E. Davis, Jr.(5)	109,277	100,000
Total	47,773,756	$ 43,717,765

(1) John G. Freund, M.D., a member of our board of directors, is a Managing Director at Skyline Venture Partners.
(2) Includes (a) 10,150,680 shares of Series 6 preferred stock held by Montreux Equity Partners IV, L.P., and (b) 887,107 shares of Series 6 preferred stock held by Montreux IV Associates, L.L.C.
(3) David P. Bonita, a member of our board of directors, is a Private Equity Partner at OrbiMed Advisors LLC.

(4) Includes 163,916 shares held by Gregory K. Hinckley and Mary C. Hinckley As Community Property with the Right of Survivorship. Mr. Hinckley is a member of our board of directors.
(5) Mr. Davis is a member of our board of directors.

Sale of Series 7 Preferred Stock

In June and July 2016, we issued and sold an aggregate of 36,711,701 shares of Series 7 preferred stock at a purchase price of $0.56 per share for an aggregate purchase price of $20,463,102. In February and March 2017, we issued and sold an aggregate of 9,735,767 shares of Series 7 preferred stock at a purchase price of $0.56 per share for an aggregate purchase price of $5,426,717.

The following table summarizes purchases of shares of Series 7 preferred stock by our executive officers, directors and holders of more than 5% of our capital stock.

	Shares of Series 7 Preferred Stock	
Purchaser	Number of Shares	Aggregate Gross Consideration
Arboretum Ventures IV, LP(1)	26,910,656	$ 15,000,000
Skyline Venture Partners V, L.P.(2)	7,176,175	4,000,000
Entities affiliated with Montreux Equity Partners(3)	3,588,087	2,000,000
OrbiMed Private Investments V, LP(4)	3,229,278	1,800,000
Redline Capital Management S.A.	1,973,448	1,100,000
Gregory K. Hinckley(5)	807,319	450,000
Keith C. Valentine(6)	179,404	100,000
Total	43,864,367	$ 24,450,000

(1) Timothy B. Petersen, a member of our board of directors, is a Managing Director at Arboretum Ventures, Inc.
(2) John G. Freund, M.D., a member of our board of directors, is a Managing Director at Skyline Venture Partners.
(3) Includes (a) 493,362 shares of Series 7 preferred stock held by Montreux Equity Partners IV, L.P. and (b) 3,094,725 shares of Series 7 preferred stock held by Montreux IV Associates IV, L.L.C.
(4) David P. Bonita, a member of our board of directors, is a Private Equity Partner at OrbiMed Advisors LLC.
(5) Represents shares held by Gregory K. Hinckley and Mary C. Hinckley As Community Property with the Right of Survivorship. Mr. Hinckley is a member of our board of directors.
(6) Mr. Valentine is a member of our board of directors.

Bridge Financings

In July 2012, we completed a bridge financing with our existing investors, Montreux Equity Partners and Skyline Ventures, through which we issued convertible promissory notes in the aggregate principal amount of approximately $2.0 million and warrants to purchase an aggregate of 988,522 shares of Series 5 preferred stock at an exercise price of $0.51 per share. All of the convertible promissory notes issued in connection with this financing converted into shares of Series 5 preferred stock in April 2014. These warrants terminate upon the earliest to occur of (i) July 25, 2019, (ii) an initial public offering, or (iii) a “corporate transaction” as defined in the Note and Warrant Purchase Agreement dated July 25, 2012.

Loans

In March 2013, we loaned Daniel P. Murray, our then current Chief Financial Officer, $200,000 in connection with the exercise of options to purchase 2,737,921 shares of our common stock, or the Murray Purchased Shares. The loan was evidenced by a full recourse promissory note, accrued interest on the
outstanding principal amount at the rate of 1.09% per annum and was secured by a pledge of the Murray

Purchased Shares. In November 2016, the loan amount was partially repaid in the amount of $116,000 (including principal of $113,000 and interest of $3,000). The remainder of the principal balance of this loan, together with all interest accrued and unpaid to date is due in March 2018.

In February 2014, we loaned Jeffrey W. Dunn, $437,000 in connection with the exercise of options to purchase 3,133,983 shares of our common stock, or the 2014 Exercised Options. The loan was evidenced by a full recourse promissory note, accrued interest on the outstanding principal amount at the rate of 1.97% per annum and was secured by a pledge of the 2014 Exercised Options. As of December 31, 2016, the outstanding balance of this loan was $450,730, including principal of $437,000. On March 1, 2017, we forgave $231,000 (including principal of $218,000 and interest of $13,000) of this loan. The remainder of the principal balance of this loan, together with all interest accrued and unpaid, will be forgiven upon the earlier of (i) our public filing of a registration statement with the Securities and Exchange Commission, (ii) a change in control or (iii) January 2018, provided Mr. Dunn provides continued service through such date.

Amended and Restated Investors' Rights Agreement

We are party to an investor rights agreement that provides holders of our preferred stock, including certain holders of 5% of our capital stock and entities affiliated with certain of our directors, with certain registration rights, including the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. The investor rights agreement also provides for a right of first refusal in favor of certain holders of our stock with regard to certain issuances of our capital stock. The rights of first refusal will not apply to, and will terminate upon, closing of this offering. For a more detailed description of these registration rights, see the section titled "Description of Capital Stock—Registration Rights."

Employment Arrangements

We have entered into offer letters and severance and change in control agreements with our executive officers. For more information regarding these arranges, see the section titled "Executive Compensation—Employment Arrangements."

Equity Grants

We have granted stock options to our executive officers and members of our board of directors. For a description of these stock options, see the sections titled "Executive Compensation" and "Management—"Non-Employee Director Compensation."

Indemnification Agreements

Our amended and restated certificate of incorporation, which will be effective upon the closing of this offering, will contain provisions limiting the liability of directors, and our amended and restated bylaws, which will be effective upon the closing of this offering, will provide that we will indemnify each of our directors to the fullest extent permitted under Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide our board of directors with discretion to indemnify our officers and employees when determined appropriate by our board of directors.

We intend to enter into indemnification agreements with each of our directors and executive officers and certain other key employees. The indemnification agreements will provide that we will indemnify each of our directors, executive officers and such other key employees against any and all expenses incurred by that director, executive officer, or other key employee because of his or her status as one of our directors, executive officers, or other key employees, to the fullest extent permitted by Delaware law, our amended and restated certificate of

incorporation and our amended and restated bylaws. In addition, the indemnification agreements will provide that, to the fullest extent permitted by Delaware law, we will advance all expenses incurred by our directors, executive officers and other key employees in connection with a legal proceeding involving his or her status as a director, executive officer or employee.

Policies and Procedures for Related Party Transactions

Our audit committee has the primary responsibility for the review, approval and oversight of any "related party transaction," which is any transaction, arrangement, or relationship (or series of similar transactions, arrangements, or relationships) in which we are, were, or will be a participant and the amount involved exceeds $120,000, and in which the related person has, had, or will have a direct or indirect material interest. We intend to adopt a written related party transaction policy to be effective upon the closing of this offering. Under our related party transaction policy, our management will be required to submit any related person transaction not previously approved or ratified by our audit committee to our audit committee. In approving or rejecting the proposed transactions, our audit committee will take into account all of the relevant facts and circumstances available. Our audit committee will approve only those transactions that, as determined by our audit committee, are in, or are not inconsistent with, our best interests and the best interests of our stockholders.

Although we have not had a written policy prior to this offering for the review and approval of transactions with related persons, our board of directors has historically reviewed and approved any transaction where a director or officer had a financial interest, including the transactions described above. Prior to approving such a transaction, the material facts as to a director's or officer's relationship or interest as to the agreement or transaction were disclosed to our board of directors. Our board of directors would take this information into account when evaluating the transaction and in determining whether such transaction was fair to us and in the best interests of all of our stockholders.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of December 31, 2016, and as adjusted to reflect the sale of common stock offered by us in this offering, for:

- each of our named executive officers;
- each of our directors;
- all of our executive officers and directors as a group; and
- each stockholder known by us to be the beneficial owner of more than 5% of our outstanding shares of common stock.

We have determined beneficial ownership in accordance with the rules of the Securities and Exchange Commission. Except as indicated in the footnotes below, we believe, based on the information furnished to us, that the persons and entities named in the table below have sole voting and investment power with respect to all shares of common stock that they beneficially own, subject to applicable community property laws.

Applicable percentage ownership is based on 268,868,155 shares of common stock outstanding at December 31, 2016, after giving effect to the conversion of all outstanding shares of preferred stock as of that date into an aggregate of 206,835,359 shares of our common stock and the conversion of all outstanding shares of series 1 common stock and series 2 common stock into an aggregate of 62,032,796 shares of our common stock, which will occur immediately prior to the closing of this offering. For purposes of computing percentage ownership after this offering, we have assumed that (i) shares of common stock will be issued by us in this offering; (ii) shares of common stock will be issued upon the net exercise of outstanding warrants with an exercise price of $0.51 per share, immediately prior to the closing of this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus; and (iii) that the underwriters will not exercise their right to purchase additional shares. In computing the number of shares of common stock beneficially owned by a person and the percentage ownership of that person, we deemed to be outstanding all shares of common stock subject to stock options and warrants held by that person or entity that are currently exercisable or that will become exercisable within 60 days of December 31, 2016. We did not deem these shares outstanding; however, for the purpose of computing the percentage ownership of any other person or entity. Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o SI-BONE, Inc., 3055 Olin Avenue, Suite 2200, San Jose, California 95128.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percent of Shares Beneficially Owned Before the Offering	Percent of Shares Beneficially Owned After the Offering
Named Executive Officers and Directors:			
David P. Bonita, M.D.(1)	14,027,952		
Timothy E. Davis, Jr.(2)	711,709		
Jeffrey W. Dunn(3)	24,545,764		
Laura A. Francis(4)	3,822,618		
John G. Freund, M.D.(5)	74,016,157		
Gregory K. Hinckley(6)	1,463,195		
Karen A. Licitra(7)	385,349		
Timothy B. Petersen(8)	17,940,437		
W. Carlton Reckling, M.D.(9)	2,295,205		
Mark A. Reiley, M.D.(10)	12,111,401		
Keith C. Valentine(11)	564,753		
All executive officers and directors as a group (20 persons)(12)	166,223,425		
5% Stockholders:			
Skyline Venture Partners V, L.P.(13)	74,016,157		
Entities affiliated with Montreux Equity Partners(14)	36,587,661		
Arboretum Ventures IV, LP(15)	17,940,437		
Redline Capital Management S.A.(16)	16,864,627		
OrbiMed Private Investments V, LP(17)	14,027,952		

* Less than 1 percent.

(1) Consists of shares of common stock held by OrbiMed Private Investments V, LP. (“OPI V”). OrbiMed Capital GP V LLC (“GP V”) is the general partner of OPI V and OrbiMed Advisors LLC (“OrbiMed Advisors”) is the managing member of GP V. Samuel D. Isaly is the managing member of and owner of a controlling interest in OrbiMed Advisors and may be deemed to have voting and investment power over the securities held by OPI V. Dr. Bonita, a member of our board of directors, is an employee of OrbiMed Advisors. Each of GP V, OrbiMed Advisors, Mr. Isaly, and Dr. Bonita disclaims beneficial ownership of such shares, except to the extent of its or his pecuniary interest therein, if any.

(2) Includes 597,163 shares of common stock issuable to Mr. Davis pursuant to options exercisable within 60 days of December 31, 2016, of which 236,386 of the shares would be unvested as of such date.

(3) Consists of (i) 9,935,734 shares of common stock held by Jeffrey W. Dunn as Trustee of the Jeffrey W. Dunn Living Trust Dated May 17, 2012, of which 231,214 shares are subject to repurchase by us as of March 1, 2017, (ii) 5,326,125 shares of common stock held by Susan McElroy, Trustee, or any successor Trustee(s) Thereto, of the Susan McElroy 2014 Separate Property Trust dated August 19, 2014, as amended (“McElroy Trust”), (iii) 8,803,730 shares of common stock issuable to Mr. Dunn pursuant to options exercisable within 60 days of December 31, 2016, of which 4,451,379 of the shares would be unvested as of such date, and (iv) 480,175 shares of common stock issuable to Susan McElroy pursuant to options exercisable within 60 days of December 31, 2016. Mr. Dunn has voting and investment power over the shares held by the Ms. McElroy and the McElroy Trust for which Mr. Dunn disclaims beneficial ownership of such shares.

(4) Consists of 3,822,618 shares of common stock issuable to Ms. Francis pursuant to options exercisable within 60 days of December 31, 2016, of which 2,256,906 of the shares would be unvested as of such date.

(5) Consists of (i) 73,306,568 shares of common stock held by Skyline Venture Partners V, L.P. (“SVP V”) and (ii) 709,589 shares of common stock issuable to SVP V upon the deemed conversion of shares of our preferred stock, which are issuable upon the exercise of warrants, as reflected in footnote 13 below. Skyline Venture Management V, LLC (“LLC”) is the general partners of SVP V and as such may be deemed to have voting and investment power with respect to the securities of SVP V. Dr. Freund, a member of our board of directors, is the Managing Director of LLC and may be deemed to have voting and investment power with respect to the securities held by SVP V. Dr. Freund disclaims beneficial ownership of such securities, except to the extent of his pecurniary interest therein.

(6) Consists of (i) 731,971 shares of common stock held by Mr. Hinckley and (ii) 731,224 shares of common stock held by Gregory K. Hinckley and Mary C. Hinckley as Community Property with the Right of Survivorship.

(7) Consists of 385,349 shares of common stock issuable to Ms. Licitra pursuant to options exercisable within 60 days of December 31, 2016, of which 279,457 of the shares would be unvested as of such date.

(8) Consists of shares of common stock held by Arboretum Ventures IV, LP ("AV IV"). Arboretum Investment Manager IV, LLC ("AIM IV") serves as the general partner of AV IV. Jan Garfinkle, Timothy B. Petersen, a member of our board of directors, and Paul McCreadie are managing directors of AIM IV and share voting and dispositive power with regard to these shares and therefore each of the foregoing managing members may be deemed to have the same powers with respect to such shares. Mr. Petersen disclaims beneficial ownership of such shares except to the extent of his proportionate pecuniary interest, if any.

(9) Consists of 2,295,205 shares of common stock issuable to Dr. Reckling pursuant to options exercisable within 60 days of December 31, 2016, of which 466,804 of the shares would be unvested as of such date.

(10) Consists of (i) 8,042,349 shares of common stock held by Dr. Reiley, (ii) 350,000 shares of common stock held by The Mark and Muriel Reiley Charitable Remainder Unitrust and (iii) 3,719,052 shares of common stock issuable to Dr. Reiley pursuant to options exercisable within 60 days of December 31, 2016, of which 1,716,261 of the shares would be unvested as of such date.

(11) Includes of 385,349 shares of common stock issuable to Mr. Valentine pursuant to options exercisable within 60 days of December 31, 2016, of which 279,457 of the shares would be unvested as of such date.

(12) Includes (i) 130,686,310 shares of common stock beneficially owned by the directors and named executive officers, (ii) 4,521,284 shares of common stock beneficially owned by other executive officers, (iii) 30,306,242 shares issuable pursuant to options exercisable within 60 days of December 31, 2016, of which 15,058,172 of the shares would be unvested as of such date and (iv) 709,589 shares of common stock issuable upon the deemed conversion of shares of our preferred stock, which are issuable upon the exercise of warrants.

(13) Consists of (i) 73,306,568 shares of common stock held by Skyline Venture Partners V, L.P. ("SVP V") and (ii) 709,589 shares of common stock issuable to SVP V upon the deemed conversion of shares of our preferred stock, which are issuable upon the exercise of warrants. Skyline Venture Management V, LLC ("LLC") is the general partners of SVP V and as such may be deemed to have voting and investment power with respect to the securities of SVP V. Dr. Freund, a member of our board of directors, is the Managing Director of LLC and may be deemed to have voting and investment power with respect to the securities held by SVP V. Dr. Freund disclaims beneficial ownership of such securities, except to the extent of his pecurniary interest therein. The address of each of the entities and individual listed above is 525 University Avenue, Suite 1350, Palo Alto, California 94301.

(14) Consists of (i) 30,876,250 shares of common stock held by Montreux Equity Partners IV, L.P. ("MEP IV"), (ii) 278,933 shares of common stock issuable to MEP IV upon the deemed conversion of shares of our preferred stock, which are issuable upon the exercise of warrants, (iii) 3,094,725 shares of common stock held by Montreux IV Associates IV, L.L.C. ("Associates IV"), and (iv) 2,337,753 shares of common stock held by Montreux IV Associates, L.L.C. ("Associates"). Daniel K. Turner III is the Managing Director of Montreux Equity Management IV, L.L.C., the general partner of each of MEP IV, Associates IV and Associates, and may be deemed to have voting and investment power over the shares held by each of these entities. Mr. Turner disclaims beneficial ownership of such shares, except to the extent of his proportionate pecuniary interest, if any. The address of the principal place of business of each of the entities and individuals listed above is One Ferry Building, Suite 255, San Francisco, California 94111.

(15) Arboretum Investment Manager IV, LLC ("AIM IV") serves as the general partner of Arboretum Ventures IV, LP ("AV IV"). Jan Garfinkle, Timothy B. Petersen, a member of our board of directors, and Paul McCreadie are managing directors of AIM IV and share the power to vote or dispose of these shares and therefore each of the foregoing managing members may be deemed to have voting and investment power with respect to such shares. Each of these individuals disclaims beneficial ownership of such shares except to the extent of their respective proportionate pecuniary interest therein. The address of the principal place of business of each of the entities and individuals listed above is 303 Detroit Street, Suite 301, Ann Arbor, Michigan 48104.

(16) Tatiana Evtushenkova and Sabine Teske are the managing directors of Redline Capital Management S.A. (“Redline”) and may be deemed to have voting and investment power over the shares held by Redline. Ms. Evtushenkova and Ms. Teske disclaim beneficial ownership of these shares except to the extent of their respective proportionate pecuniary interest therein, if any. The address of the principal place of business of each of Redline and individuals listed above is 26 Avenue Monterey, L-2163 Luxemborg, G.D. Luxemborg.

(17) OrbiMed Capital GP V LLC (“GP V”) is the general partner of OPI V and OrbiMed Advisors LLC (“OrbiMed Advisors”) is the managing member of GP V. Samuel D. Isaly is the managing member of and owner of a controlling interest in OrbiMed Advisors and may be deemed to have voting and investment power over the securities held by OPI V. Dr. Bonita, a member of our board of directors, is an employee of OrbiMed Advisors. Each of GP V, OrbiMed Advisors, Mr. Isaly, and Dr. Bonita disclaims beneficial ownership of such shares, except to the extent of its or his pecuniary interest therein, if any. The address of the principal place of business of each of the entities and individuals listed above is 601 Lexington Avenue, 54th Floor, New York, New York 10022.

DESCRIPTION OF CAPITAL STOCK

A description of our capital stock and the material terms and provisions of our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the closing of this offering and affecting the rights of holders of our capital stock is set forth below. The forms of our amended and restated certificate of incorporation and our amended and restated bylaws to be adopted in connection with this offering will be filed as exhibits to the registration statement relating to this prospectus.

Upon the closing of this offering, our amended and restated certificate of incorporation will authorize shares of undesignated preferred stock, the rights, preferences and privileges of which may be designated from time to time by our board of directors.

Upon the closing of this offering, our authorized capital stock will consist of shares, all with a par value of $0.0001 per share, of which:

- shares are designated common stock; and
- shares are designated preferred stock.

As of December 31, 2016, and after giving effect to (i) the conversion of all of our outstanding preferred stock into common stock immediately prior to the closing of this offering and (ii) the issuance of shares of common stock upon the net exercise of outstanding warrants, with an exercise price of $0.51 per share, immediately prior to the closing of this offering, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, there were outstanding:

- shares of common stock held of record by stockholders;
- 44,322,182 shares of common stock issuable upon exercise of outstanding stock options; and
- 4,103,090 shares of common stock issuable upon exercise of the outstanding warrants.

Common Stock

Dividend Rights

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of outstanding shares of our common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and only then at the times and in the amounts that our board of directors may determine. See the section title “Dividend Policy” for more information.

Voting Rights

The holders of our common stock are entitled to one vote per share. Stockholders do not have the ability to cumulate votes for the election of directors. Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect upon the closing of this offering will provide for a classified board of directors consisting of three classes of approximately equal size, each serving staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights and is not subject to conversion, redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

Upon our dissolution, liquidation or winding-up, the assets legally available for distribution to our stockholders are distributable ratably among the holders of our common stock, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights and payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Reclassification of Common Stock

Prior to this offering, we had two classes of common stock outstanding: Series 1 common stock and Series 2 common stock. The holders of our Series 2 common stock are entitled to one vote per share and the holders of our Series 1 common stock do not have voting rights, except as required by applicable law. Immediately prior to the closing of this offering, we will reclassify all outstanding shares of our Series 1 common stock and Series 2 common stock into a single class of common stock named "common stock," which shall have the same voting powers, preferences, rights and qualifications, limitations and restrictions as the current Series 2 common stock.

Preferred Stock

Upon the closing of this offering, no shares of preferred stock will be outstanding, but we will be authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series and to fix the designation, powers, preferences and rights of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors also can increase or decrease the number of shares of any series, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and may adversely affect the market price of our common stock and the voting and other rights of the holders of common stock. We have no current plan to issue any shares of preferred stock.

Options

As of December 31, 2016, we had options to purchase 44,322,182 shares of common stock outstanding, with a weighted-average exercise price of $0.20 per share, under the 2008 Stock Plan.

Subsequent to December 31, 2016, we granted options to purchase 12,044,446 shares of common stock, with an exercise price of $0.33, under the 2008 Stock Plan.

For additional information regarding the terms of the 2008 Stock Plan, see the section titled "Executive Compensation—Equity Plans."

Warrants

As of December 31, 2016, we had outstanding warrants to purchase up to an aggregate of 2,212,918 shares of our common stock with a weighted-average exercise price of $0.22. Unless earlier exercised, these warrants will expire between July 2023 and November 2024.

As of December 31, 2016, we had outstanding warrants to purchase up to an aggregate of 1,384,326 shares of our Series 5 preferred stock with an exercise price of $0.51. Immediately prior to the closing of this offering, outstanding warrants to purchase 988,522 shares will be deemed to be net exercised. Upon the closing of this offering, the remaining warrant will become exercisable for 395,804 shares of our common stock with an exercise price of $0.51 per share and, unless exercised earlier, will expire in July 2023.

As of December 31, 2016, we had outstanding warrants to purchase up to an aggregate of 1,258,818 shares of our Series 6 preferred stock with an exercise price of $0.92 per share. Upon the closing of this offering, these warrants will become exercisable for up to an aggregate of 1,319,524 shares of our common stock with an exercise price of $0.92 per share. Unless earlier exercised, these warrants will expire between November 2024 and November 2025.

As of December 31, 2016, we had outstanding warrants to purchase up to an aggregate of 174,844 shares of our Series 7 preferred stock with an exercise price of $0.56 per share. Upon the closing of this offering, these warrants will become exercisable for up to an aggregate of 174,844 shares of our common stock with an exercise price of $0.56 per share. Unless earlier exercised, these warrants will expire in November 2026.

The warrants contain provision for the adjustment of the exercise price and the number of shares issuable upon the exercise of the applicable warrant in the event of certain stock dividends, stock splits, reorganizations, reclassifications and consolidations.

Registration Rights

After this offering, the holders of 206,835,359 shares of common stock issued upon the conversion of our preferred stock will be entitled to contractual rights to require us to register those shares under the Securities Act of 1933, as amended, or the Securities Act. These rights are provided under the terms of our amended and restated investors' rights agreement. If we propose to register any of our securities under the Securities Act for our own account, holders of shares having registration rights are entitled to include their shares in our registration statement, provided, among other conditions, that the underwriters of any such offering have the right to limit the number of shares included in the registration.

We will pay all expenses relating to any demand, piggyback or Form S-3 registration described below, other than underwriting discounts and commissions. The registration rights terminate upon the earliest to occur of: (i) the fourth anniversary of the closing of this offering; (ii) a liquidation event; or (iii) with respect to the registration rights of an individual holder, the earlier of the date that all shares held by the holder can be sold in compliance with Rule 144 or if the holder holds one percent or less or our outstanding common stock and all such shares can be sold in any three-month period in compliance with Rule 144.

Demand Registration Rights

The holders of the registrable securities will be entitled to certain demand registration rights. At any time beginning on the earlier of June 2021 or 180 days following the effectiveness of this offering, the holders of 40% or more of the registrable securities then outstanding, may make a written request that we register at least 20% of the registrable securities, subject to certain specified conditions and exceptions. Such request for registration must cover securities the aggregate offering price of at least $10,000,000, net of underwriting discounts and commissions if the proposed number of securities to be registered is less than 20% of the total number of registrable securities. We not obligated to effect more than two of these registrations.

Piggyback Registration Rights

If we propose to register any of our securities under the Securities Act either for our own account or for the account of other stockholders, the holders of shares having registration rights will, subject to certain exceptions, be entitled to include their shares in our registration statement. These registration rights are subject to specified conditions and limitations, including but not limited to the right of the underwriters to limit the number of shares included in any such offering under certain circumstances, but not below 15% of the total amount of securities included in such offering.

Form S-3 Registration Rights

At any time after we are qualified to file a registration statement on Form S-3, and subject to limitations and conditions specified in the amended and restated investors' rights agreement, the holders of at least 5,000,000 of the registrable securities may make a written request that we prepare and file a registration statement on Form S-3 under the Securities Act covering their shares, so long as the aggregate price to the public, net of any underwriters' discounts and commissions, is at least $3,000,000. We are not obligated to effect more than one of these Form S-3 registrations in any 12-month period.

Anti-Takeover Provisions

Delaware Law

Upon the closing of this offering, we will be governed by the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. This section prevents some Delaware corporations from engaging, under some circumstances, in a business combination, which includes a merger or sale of at least 10% of the corporation's assets with any interested stockholder, meaning a stockholder who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of the corporation's outstanding voting stock, unless:

- the transaction is approved by the board of directors prior to the time that the interested stockholder became an interested stockholder; or
- subsequent to such time that the stockholder became an interested stockholder the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders by at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

A Delaware corporation may "opt out" of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or amended and restated bylaws resulting from a stockholders' amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

Certificate of Incorporation and Bylaws Provisions

Upon the closing of this offering, our amended and restated certificate of incorporation and our amended and restated bylaws will include a number of provisions that may have the effect of deterring hostile takeovers or delaying or preventing changes in control of our management team, including the following:

- ***Board of Directors Vacancies***. Our amended and restated certificate of incorporation and amended and restated bylaws will authorize our board of directors to fill vacant directorships, including newly- created seats. In addition, the number of directors constituting our board of directors will be set only by resolution adopted by a majority vote of our entire board of directors. These provisions will prevent a stockholder from increasing the size of our board of directors and gaining control of our board of directors by filling the resulting vacancies with its own nominees.
- ***Classified Board***. Our amended and restated certificate of incorporation and amended and restated bylaws will provide that our board of directors will be classified into three classes of directors, each of whom will hold office for a three-year term. In addition, directors may only be removed from the board of directors for cause and only by the approval of % of our then-outstanding shares of our common stock. The existence of a classified board could delay a successful tender offeror from obtaining majority control of our board of directors, and the prospect of that delay might deter a potential offeror.
- ***Stockholder Action; Special Meeting of Stockholders***. Our amended and restated certificate of incorporation will provide that stockholders will not be able to take action by written consent, and will

only be able to take action at annual or special meetings of our stockholders. Stockholders will not be permitted to cumulate their votes for the election of directors. Our amended and restated bylaws will further provide that special meetings of our stockholders may be called only by a majority vote of our entire board of directors, the chairman of our board of directors or our chief executive officer.

- ***Advance Notice Requirements for Stockholder Proposals and Director Nominations***. Our amended and restated bylaws will provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at any meeting of stockholders. Our amended and restated bylaws will also specify certain requirements regarding the form and content of a stockholder's notice. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our meetings of stockholders.
- ***Issuance of Undesignated Preferred Stock***. Our board of directors will have the authority, without further action by the holders of common stock, to issue up to shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by the board of directors. The existence of authorized but unissued shares of preferred stock will enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

Choice of Forum

Upon the closing of this offering, our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws or any action asserting a claim against us that is governed by the internal affairs doctrine. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. Our amended and restated certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

Transfer Agent and Registrar

Upon the closing of this offering the transfer agent and registrar for our common stock will be . The transfer agent's address is , and the telephone number is .

Listing

We intend to apply to list our common stock on the Nasdaq Global Market under the symbol "SIBN."

SHARES ELIGIBLE FOR FUTURE SALE

Before this offering, there has not been a public market for shares of common stock. Future sales of substantial amounts of shares of our common stock, including shares issued upon the exercise of outstanding options, in the public market following this offering or the possibility of these sales occurring, could cause the prevailing market price for our common stock to fall or impair our ability to raise equity capital in the future.

Following this offering, we will have outstanding shares of our common stock, based on the number of shares outstanding as of December 31, 2016. This includes shares of common stock that we are selling in this offering, which shares may be resold in the public market immediately unless purchased by our affiliates, and assumes no additional exercise of outstanding options other than as described elsewhere in this prospectus.

The remaining shares of common stock that are not sold in this offering will be "restricted securities," as that term is defined in Rule 144 under the Securities Act of 1933, as amended, or the Securities Act. These restricted securities are eligible for public sale only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act, which are summarized below.

In addition, we, our executive officers and directors, and substantially all of our security holders have entered into market standoff agreements with us or lock-up agreements with the underwriters under which they have agreed, subject to specific exceptions, not to sell any of our capital stock until at least 181 days after the date of this prospectus, as described below. As a result of these agreements and the provisions of our investors' rights agreement disclosed in "Description of Capital Stock—Registration Rights," subject to the provisions of Rule 144 or Rule 701, the shares will generally become available for sale in the public market as follows:

- beginning on the date of this prospectus, the shares sold in this offering will be immediately available for sale in the public market, unless purchased by our affiliates;
- beginning 181 days after the date of this prospectus, additional shares will become eligible for sale in the public market, of which shares will be held by affiliates and subject to the volume and other restrictions of Rule 144, as described below; and
- the remainder of the shares will be eligible for sale in the public market from time to time thereafter, subject in some cases to the volume and other restrictions of Rule 144, as described below.

Rule 144

In general, under Rule 144 as currently in effect, a person who has beneficially owned shares of our restricted common stock for at least six months would be entitled to sell their securities provided that such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale, and we are subject to the periodic reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, for at least 90 days before the sale. In addition, under Rule 144, any person who is not an affiliate of ours and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the closing of this offering without regard to whether current public information about us is available. Persons who have beneficially owned shares of our restricted common stock for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of common shares then outstanding, which will equal approximately shares immediately after this offering assuming no exercise of the underwriters' option to purchase additional shares, based on the number of common shares outstanding as of December 31, 2016; or

- the average weekly trading volume of our common shares during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;

provided, in each case, that we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

Any of our service providers who purchased shares under a written compensatory plan or contract prior to this offering may be entitled to rely on the resale provisions of Rule 701. Rule 701, as currently in effect, permits resales of shares, including by affiliates, in reliance upon Rule 144 but without compliance with certain restrictions, including the holding period requirement, of Rule 144. Rule 701 further provides that non-affiliates may sell such shares in reliance on Rule 144 without having to comply with the public information, volume limitation or notice provisions of Rule 144. All holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling such shares if such resale is pursuant to Rule 701. All Rule 701 shares are, however, subject to lock-up agreements and will only become eligible for sale upon the expiration of these lock-up agreements.

Lock-Up Agreements

In connection with this offering, we and all directors and officers and the holders of substantially all of our outstanding capital stock, warrants and stock options have agreed with the underwriters, subject to certain exceptions, not to offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, shares of our common stock or any securities convertible into or exchangeable for shares of our common stock or enter into any swap or other arrangement that transfers to another any of the economic consequences of ownership of our common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of Morgan Stanley & Co. LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated. These agreements are subject to certain exceptions, as set forth in “Underwriting.”

Certain of our employees, including our executive officers, and directors may enter into written trading plans that are intended to comply with Rule 10b5-1 under the Securities Exchange Act of 1934. Sales under these trading plans would not be permitted until the expiration of the lock-up agreements relating to our initial public offering described above.

Registration Rights

Upon the closing of this offering, the holders of 206,835,359 shares of common stock will be entitled to rights with respect to the registration of the sale of such shares of common stock under the Securities Act. See the section titled “Description of Capital Stock—Registration Rights.” All such shares are covered by lock-up agreements. Following the expiration of the lock-up period, registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act immediately upon the effectiveness of the registration.

Equity Plans

We intend to file a registration statement on Form S-8 under the Securities Act covering all of the shares of our common stock subject to options outstanding or reserved for issuance under our equity plans. We expect to file this registration statement as soon as practicable after the closing of this offering. This registration statement will become effective immediately upon filing, and shares covered by this registration statement will thereupon be eligible for sale in the public markets, subject to vesting restrictions, the lock-up agreements described above and Rule 144 limitations applicable to affiliates. For a more complete discussion of our stock plans, see the section titled “Executive Compensation—Equity Plans.”

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSEQUENCES TO NON-U.S. HOLDERS OF OUR COMMON STOCK

The following summary describes the material U.S. federal income and estate tax consequences of the acquisition, ownership and disposition of our common stock acquired in this offering by Non-U.S. Holders (as defined below). This discussion does not address all aspects of U.S. federal income and estate taxes and does not deal with foreign, state and local consequences that may be relevant to Non-U.S. Holders in light of their particular circumstances, nor does it address U.S. federal tax consequences other than income and estate taxes. Special rules different from those described below may apply to certain Non-U.S. Holders that are subject to special treatment under the Code, such as financial institutions, insurance companies, tax-exempt organizations, broker-dealers and traders in securities, U.S. expatriates, "controlled foreign corporations," "passive foreign investment companies," corporations that accumulate earnings to avoid U.S. federal income tax, persons that hold our common stock as part of a "straddle," "hedge," "conversion transaction," "synthetic security" or integrated investment or other risk reduction strategy, persons subject to the alternative minimum tax or federal Medicare contribution tax on net investment income, partnerships and other pass-through entities, and investors in such pass-through entities. Such Non-U.S. Holders are urged to consult their own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to them. Furthermore, the discussion below is based upon the provisions of the Code, and Treasury regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be repealed, revoked or modified, perhaps retroactively, so as to result in U.S. federal income and estate tax consequences different from those discussed below. We have not requested a ruling from the U.S. Internal Revenue Service, or IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions. This discussion assumes that the Non-U.S. Holder holds our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment).

Persons considering the purchase of our common stock pursuant to this offering should consult their own tax advisors concerning the U.S. federal income and estate tax consequences of acquiring, owning and disposing of our common stock in light of their particular situations, as well as any consequences arising under the laws of any other taxing jurisdiction, including any state, local or foreign tax consequences.

For the purposes of this discussion, a "Non-U.S. Holder" is, for U.S. federal income tax purposes, a beneficial owner of common stock that is neither a U.S. Holder, nor a partnership (or other entity treated as a partnership for U.S. federal income tax purposes regardless of its place of organization or formation). A "U.S. Holder" means a beneficial owner of our common stock that is for U.S. federal income tax purposes (1) an individual who is a citizen or resident of the U.S., (2) a corporation or other entity treated as a corporation created or organized in or under the laws of the U.S., any state thereof or the District of Columbia, (3) an estate the income of which is subject to U.S. federal income taxation regardless of its source or (4) a trust if it (a) is subject to the primary supervision of a court within the U.S. and one or more U.S. persons have the authority to control all substantial decisions of the trust or (b) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

Distributions

Subject to the discussion below, distributions, if any, made on our common stock to a Non-U.S. Holder of our common stock to the extent made out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles) generally will constitute dividends for U.S. tax purposes and will be subject to withholding tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. To obtain a reduced rate of withholding under a treaty, a Non-U.S. Holder generally will be required to provide us with a properly executed IRS Form W-8BEN (in the case of individuals), IRS Form W-8BEN-E (in the case of entities), or other appropriate form, certifying the Non-U.S. Holder's entitlement to benefits under that treaty. This certification must be provided to us or our paying agent prior to the payment of dividends and

must be updated periodically. In the case of a Non-U.S. Holder that is an entity, Treasury Regulations and the relevant tax treaty provide rules to determine whether, for purposes of determining the applicability of a tax treaty, dividends will be treated as paid to the entity or to those holding an interest in that entity. If a Non-U.S. Holder holds stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to such agent. The holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty and you do not timely provide the required certification, you may be able to obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim for a refund with the IRS.

We generally are not required to withhold tax on dividends paid to a Non-U.S. Holder that are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the U.S. (and, if required by an applicable income tax treaty, are attributable to a permanent establishment that such holder maintains in the U.S.) if a properly executed IRS Form W-8ECI, stating that the dividends are so connected, is furnished to us (or, if stock is held through a financial institution or other agent, to such agent). In general, such effectively connected dividends will be subject to U.S. federal income tax, on a net income basis at the regular graduated rates. A corporate Non-U.S. Holder receiving effectively connected dividends may also be subject to an additional "branch profits tax," which is imposed, under certain circumstances, at a rate of 30% (or such lower rate as may be specified by an applicable treaty) on the corporate Non-U.S. Holder's effectively connected earnings and profits, subject to certain adjustments.

To the extent distributions on our common stock, if any, exceed our current and accumulated earnings and profits, they will first reduce the Non-U.S. Holder's adjusted basis in our common stock, but not below zero, and then will be treated as gain to the extent of any excess, and taxed in the same manner as gain realized from a sale or other disposition of common stock as described in the next section.

Gain on Disposition of Our Common Stock

Subject to the discussion below regarding backup withholding and foreign accounts, a Non-U.S. Holder generally will not be subject to U.S. federal income tax with respect to gain realized on a sale or other disposition of our common stock unless (1) the gain is effectively connected with a trade or business of such holder in the U.S. (and, if required by an applicable income tax treaty, is attributable to a permanent establishment that such holder maintains in the U.S.), (2) the Non-U.S. Holder is a nonresident alien individual and is present in the U.S. for 183 or more days in the taxable year of the disposition and certain other conditions are met or (3) we are or have been a "United States real property holding corporation" within the meaning of Code Section 897(c)(2) at any time within the shorter of the five-year period preceding such disposition or such holder's holding period. In general, we would be a U.S. real property holding corporation if interests in U.S. real estate comprised (by fair market value) at least half of our business assets. We believe that we are not, and do not anticipate becoming, a U.S. real property holding corporation. However, because the determination of whether we are a U.S. real property holding corporation depends on the fair market value of our U.S. real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a U.S. real property holding corporation in the future. Even if we are treated as a U.S. real property holding corporation, gain realized by a Non-U.S. Holder on a disposition of our common stock will not be subject to U.S. federal income tax so long as (a) the Non-U.S. Holder owned, directly, indirectly and constructively, no more than five percent of our common stock at all times within the shorter of (i) the five-year period preceding the disposition or (ii) the holder's holding period and (b) our common stock is regularly traded on an established securities market. There can be no assurance that our common stock will qualify as regularly traded on an established securities market.

If you are a Non-U.S. Holder described in (1) above, you will be required to pay tax on the net gain derived from the sale at regular graduated U.S. federal income tax rates, and corporate Non-U.S. Holders may be subject to the additional branch profits tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. If you are an individual Non-U.S. Holder described in (2) above, you will be required to pay a flat

30% tax on the gain derived from the sale, which gain may be offset by U.S. source capital losses if you timely file U.S. tax returns reporting the losses (even though you are not considered a resident of the U.S.).

Information Reporting Requirements and Backup Withholding

Generally, we must report information to the IRS with respect to any dividends we pay on our common stock including the amount of any such dividends, the name and address of the recipient, and the amount, if any, of tax withheld. A similar report is sent to the holder to whom any such dividends are paid. Pursuant to tax treaties or certain other agreements, the IRS may make its reports available to tax authorities in the recipient's country of residence.

Dividends paid by us (or our paying agents) to a Non-U.S. Holder may also be subject to U.S. backup withholding. U.S. backup withholding generally will not apply to a Non-U.S. Holder who provides a properly executed IRS Form W-8BEN (in the case of individuals) or IRS Form W-8BEN-E (in the case of entities) or otherwise establishes an exemption.

Under current U.S. federal income tax law, U.S. information reporting and backup withholding requirements generally will apply to the proceeds of a disposition of our common stock effected by or through a U.S. office of any broker, U.S. or foreign, except that information reporting and such requirements may be avoided if the holder provides a properly executed IRS Form W-8BEN (in the case of individuals) or IRS Form W-8BEN-E (in the case of entities) or otherwise meets documentary evidence requirements for establishing Non-U.S. Holder status or otherwise establishes an exemption. Generally, U.S. information reporting and backup withholding requirements will not apply to a payment of disposition proceeds to a Non-U.S. Holder where the transaction is effected outside the U.S. through a non-U.S. office of a non-U.S. broker. Information reporting and backup withholding requirements may, however, apply to a payment of disposition proceeds if the broker has actual knowledge, or reason to know, that the holder is, in fact, a U.S. person. For information reporting purposes, certain brokers with substantial U.S. ownership or operations will generally be treated in a manner similar to U.S. brokers.

Any amounts of tax withheld under the backup withholding rules may be credited against the tax liability of persons subject to backup withholding, provided that the required information is timely furnished to the IRS.

Foreign Accounts

A U.S. federal withholding tax of 30% may apply to dividends on and the gross proceeds of a disposition of our common stock paid to a foreign financial institution (as specifically defined by applicable rules) unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity holders of such institution, as well as certain account holders that are foreign entities with U.S. owners). This U.S. federal withholding tax of 30% will also apply to dividends on and the gross proceeds of a disposition of our common stock to a non-financial foreign entity unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding substantial direct and indirect U.S. owners of the entity. The withholding tax described above will not apply if the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from the rules. Under certain circumstances, a Non-U.S. Holder might be eligible for refunds or credits of such taxes. Holders are encouraged to consult with their own tax advisors regarding the possible implications of these rules to their investment in our common stock.

The withholding provisions described above apply currently to payments of dividends and, pursuant to IRS guidance, is expected to apply to payments of gross proceeds from a sale or other disposition of common stock on or after January 1, 2019.

Federal Estate Tax

If an individual Non-U.S. Holder is treated as the owner of, or has made certain lifetime transfers of, an interest in our common stock, that person's gross estate will include the value thereof for U.S. federal estate tax purposes, and may be subject to U.S. federal estate tax unless an applicable estate tax treaty provides otherwise, even though such individual was not a citizen or resident of the U.S. at the time of his or her death.

UNDERWRITING

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them the number of shares indicated below:

Name	Number of Shares
Morgan Stanley & Co. LLC	
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Canaccord Genuity Inc.	
JMP Securities LLC	
Total:	

The underwriters and the representatives are collectively referred to as the "underwriters" and the "representatives," respectively. The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option to purchase additional shares described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of $ a share under the public offering price. After the initial public offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional shares of common stock.

		Total	
	Per Share	No Exercise	Full Exercise
Public offering price	$	$	$
Underwriting discounts and commissions to be paid by us.	$	$	$
Proceeds, before expenses	$	$	$

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $ million. We have agreed to reimburse the underwriters for expense relating to clearance of this offering with the Financial Industry Regulatory Authority up to $.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by them.

We intend to apply to list our common stock on the Nasdaq Global Market under the symbol “SIBN.”

We and all directors and officers and the holders of all of our outstanding capital stock, warrants and stock options have agreed that, without the prior written consent of Morgan Stanley & Co. LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated on behalf of the underwriters, we and they will not, during the period ending 180 days after the date of this prospectus (the “restricted period”):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the Securities and Exchange Commission relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock.

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agrees that, without the prior written consent of Morgan Stanley & Co. LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph to do not apply to:

- transactions by a securityholder relating to shares of common stock or other securities acquired (i) in open market transactions after the closing of this offering or (ii) except in the case where the securityholder is an officer or director of ours, in this offering; provided that, in each case (i) and (ii), no filing under Section 16(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, is required or voluntarily made during the restricted period in connection with subsequent sales of common stock or other securities acquired in such open market transactions or in this offering;
- transfers of shares of common stock or any security convertible into or exercisable or exchangeable for common stock (i) as a bona fide gift, (ii) to an immediate family member or a trust for the direct or indirect benefit of the transferor or such immediate family member of the transferor, (iii) to any corporation, partnership, limited liability company, investment fund or other entity controlled or managed, or under common control or management by the transferor or the immediate family of the transferor, or (iv) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the transferor, provided in each case that (a) each distributee or transferee signs and delivers a lock-up letter and (b) no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares shall be required or voluntarily made during the restricted period (other than a filing on a Form 5);
- distributions or transfers of shares of common stock or any security convertible into or exercisable or exchangeable for common stock to general or limited partners, members or stockholders of the transferor, provided that (i) each distributee or transferee shall sign and deliver a lock-up letter and (ii) no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of common stock, shall be required or shall be voluntarily made during the restricted period (other than a filing on a Form 5);

- the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock, provided that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the person or us regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period;
- the exercise of options to purchase shares of common stock granted under any stock incentive plan or stock purchase plan described in this prospectus, provided that (i) the underlying shares shall continue to be subject to the restrictions on transfer set forth in the lock-up agreement and (ii) any filing under Section 16 of the Exchange Act made during the restricted period shall clearly indicate that (A) the filing relates to the circumstances described above and (B) no securities were sold by the person, and (iii) the person does not otherwise voluntarily effect any other public filing or report regarding such transfers during the restricted period;
- the receipt from us of shares of common stock upon (A) the exercise or settlement of options or restricted stock units granted under a stock incentive plan or other equity award plan, which plan is described in this prospectus or (B) the exercise of warrants outstanding and which are described in the this prospectus, or (ii) the transfer of shares of common stock or any securities convertible into common stock to us upon a vesting or settlement event of our securities or upon the exercise of options or warrants to purchase our securities on a “cashless” or “net exercise” basis to the extent permitted by the instruments representing such options or warrants (and any transfer to us necessary to generate such amount of cash needed for the payment of taxes, including estimated taxes, due as a result of such vesting or exercise whether by means of a “net settlement” or otherwise) so long as such “cashless exercise” or “net exercise” is effected solely by the surrender of outstanding options or warrants (or the common stock issuable upon the exercise thereof) to us and our cancellation of all or a portion thereof to pay the exercise price and/or withholding tax and remittance obligations, provided that (1) in the case of (i), the shares received upon exercise or settlement of the option, restricted stock unit, or warrant are subject to the terms of the lock-up agreement and (2) to the extent a filing under Section 16 of the Exchange Act is required to made during the restricted period as a result of transfers, it shall clearly indicate that (A) the filing relates to the circumstances described above and (B) no securities were sold by the transferor in the open market, and (3) the transferor does not otherwise voluntarily effect any other public filing or report regarding such transfers during the restricted period;
- the transfer of shares of common stock or any security convertible into or exercisable or exchangeable for common stock to us pursuant to agreements under which we have the option to repurchase such shares or a right of first refusal with respect to transfers of such shares, provided that (1) to the extent a filing under Section 16 of the Exchange Act is required to made during the restricted period as a result of such transfers, it shall clearly indicate that (A) the filing relates to the circumstances described above and (B) no securities were sold by the transferor in the open market, and (2) the transferor does not otherwise voluntarily effect any other public filing or report regarding such transfers during the restricted period;
- the transfer of shares of common stock or any security convertible into or exercisable or exchangeable for common stock that occurs pursuant to a qualified domestic order or in connection with a divorce settlement, provided that (i) each transferee shall sign and deliver a lock-up agreement, (ii) any filing under Section 16 of the Exchange Act made during the restricted period shall clearly indicate in the footnotes thereto that (A) the filing relates to the circumstances described above and (B) no securities were sold by the transferor, and (iii) the transferor does not otherwise voluntarily effect any other public filing or report regarding such transfers during the restricted period;
- the conversion of the outstanding preferred stock into shares of our common stock, provided that such shares of common stock remain subject to the terms of the lock-up agreement; or
- the sale of shares of common stock to the underwriters pursuant to the underwriting agreement.

Morgan Stanley & Co. LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, in their sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

In order to facilitate the offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by exercising the over-allotment option or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. 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. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act of 1933, as amended.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters, or selling group members, if any, participating in this offering. The representatives may agree to allocate a number of shares of common stock to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters that may make Internet distributions on the same basis as other allocations.

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, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates have performed and may in the future perform various financial advisory and investment banking services for us, for which they will receive customary fees and expenses.

In addition, 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. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

Pricing of the Offering

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives. Among the factors to be considered in determining the initial public offering price are our future prospects and those of our industry in general, our

results from operations and certain other financial and operating information in recent periods, and the price- earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

Selling Restrictions

European Economic Area

In relation to each Member State of the European Economic Area, an offer to the public of any shares of our common stock may not be made in that Member State, except that an offer to the public in that Member State of any shares of our common stock may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Member State:

(i) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(ii) 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or

(iii) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares of our common stock in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of our common stock to be offered so as to enable an investor to decide to purchase or subscribe any shares of our common stock, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive) and includes any relevant implementing measure in each Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

Each underwriter has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 ("FSMA")) received by it in connection with the issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Switzerland

The shares of common stock may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document 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. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, us, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA ("FINMA"), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission ("ASIC"), in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (the "Exempt Investors") who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares of common stock have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in 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 (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares of common stock has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares of common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares of common stock have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares of common stock may not be circulated or distributed, nor may the shares of 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 "SFA"), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares of common stock are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) 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) the sole purpose of which is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of common stock pursuant to an offer made under Section 275 of the SFA except:

(a) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law;

(d) as specified in Section 276(7) of the SFA; or

(e) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Cooley LLP, Palo Alto, California. Latham & Watkins LLP, New York, New York is representing the underwriters in this offering.

EXPERTS

The financial statements as of December 31, 2015 and December 31, 2016 and for each of the two years in the period ended December 31, 2016 included in this prospectus have been so included in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 2 to the financial statements) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have submitted with the Securities and Exchange Commission, or SEC, a registration statement on Form S-1 under the Securities Act of 1933, as amended, with respect to the shares of common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules to the registration statement. Please refer to the registration statement, exhibits and schedules for further information with respect to the common stock offered by this prospectus. Statements contained in this prospectus regarding the contents of any contract or other document are only summaries. With respect to any contract or document that is filed as an exhibit to the registration statement, you should refer to the exhibit for a copy of the contract or document, and each statement in this prospectus regarding that contract or document is qualified by reference to the exhibit. You may read and copy the registration statement and its exhibits and schedules at the SEC's public reference room, located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding issuers, like us, that file documents electronically with the SEC. The address of that website is www.sec.gov. The information on the SEC's web site is not part of this prospectus, and any references to this web site or any other web site are inactive textual references only.

Upon closing of this offering, we will become subject to the information and reporting requirements of the Securities Exchange Act of 1934 and, in accordance with this law, will be required to file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at www.si-bone.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 on, or that can be accessed through, our website is not a part of this prospectus. Investors should not rely on any such information in deciding whether to purchase our common stock. We have included our website address in this prospectus solely as an inactive textual reference.

SI-BONE, INC.
Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors
of SI-BONE, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations and comprehensive loss, of changes in convertible preferred stock and stockholders' deficit, and of cash flows present fairly, in all material respects, the financial position of SI-BONE, Inc. and its subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America. 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 of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States) and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit 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.

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company has suffered recurring losses from operations and negative cash flows from operating activities 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 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ PricewaterhouseCoopers LLP
San Jose, California
March 24, 2017

SI-BONE, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	December 31,		Pro Forma Stockholders' Equity December 31, 2016
	2015	2016	(unaudited)
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents	$ 20,272	$ 27,900	
Accounts receivable, net of allowance for doubtful accounts of $482 and $316 at December 31, 2015 and 2016, respectively	5,769	5,951	
Inventory	2,700	1,514	
Prepaid expenses and other current assets	1,157	959	
Total current assets	29,898	36,324	
Property and equipment, net	3,534	2,608	
Intangible assets, net	55	47	
Other non-current assets	1,934	457	
TOTAL ASSETS	$ 35,421	$ 39,436	
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT			
CURRENT LIABILITIES			
Accounts payable	$ 2,494	$ 1,025	
Accrued liabilities and other	4,315	4,125	
Short term borrowings	—	8,236	
Total current liabilities	6,809	13,386	
Convertible preferred stock warrants	957	588	
Long term borrowings	25,056	21,074	
TOTAL LIABILITIES	32,822	35,048	
Commitments and contingencies (Note 5)			
Convertible preferred stock, $0.0001 par value; Authorized: 176,328,941 and 207,953,835 shares at December 31, 2015 and 2016 respectively; issued and outstanding: 167,242,376 and 203,954,077 shares at December 31, 2015 and 2016 respectively; (Liquidation preference of $113,767 at December 31, 2016)	92,796	113,121	
STOCKHOLDERS' DEFICIT			
Common stock, $0.0001 par value; Authorized: 290,000,000 shares and 338,000,000 at December 31, 2015 and 2016 respectively; issued and outstanding: 59,998,663 and 62,032,796 shares, at December 31, 2015 and 2016 respectively	7	7	
Additional paid-in capital	6,121	7,994	
Stockholders' notes receivable	(634)	(521)	
Accumulated other comprehensive income	405	472	
Accumulated deficit	(96,096)	(116,685)	
TOTAL STOCKHOLDERS' DEFICIT	(90,197)	(108,733)	$
TOTAL LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT	$ 35,421	$ 39,436	

The accompanying notes are an integral part of these consolidated financial statements.

SI-BONE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except share and per share amounts)

	Year Ended December 31,	
	2015	2016
Revenue	$ 41,173	$ 42,101
Cost of goods sold	5,398	5,165
Gross profit	35,775	36,936
Operating expenses:		
Sales and marketing	39,799	35,215
Research and development	8,606	6,380
General and administrative	13,793	12,906
Total operating expenses	62,198	54,501
Loss from operations	(26,423)	(17,565)
Interest and other income (expense), net:		
Interest income	22	71
Interest expense	(1,686)	(3,308)
Other income (expense), net	(67)	213
Net loss	(28,154)	(20,589)
Other comprehensive income:		
Changes in foreign currency translation	247	67
Comprehensive loss	$ (27,907)	$ (20,522)
Net loss, basic and diluted (Note 14)	$ (0.51)	$ (0.35)
Weighted-average number of common shares used to compute basic and diluted net loss per share (Note 14)	55,292,845	59,659,307
Pro forma net loss per common share, basic and diluted (unaudited) (Note 14)	$	$
Pro forma weighted-average number of common shares used to compute basic and diluted net loss per share (unaudited) (Note 14)		

The accompanying notes are an integral part of these consolidated financial statements.

SI-BONE, INC.

CONSOLIDATED STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(In thousands, except share and per share amounts)

	Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Stockholders' Notes Receivable	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount					
Balances at December 31, 2014	143,556,724	$ 71,200	53,367,688	$ 5	3,802	$ (656)	$ 158	$ (67,942)	$ (64,633)
Issuance of common stock upon exercise of stock options for cash, net of unvested early exercises	—	—	6,693,475	1	834	—	—	—	835
Stock-based compensation	—	—	—	—	1,233	—	—	—	1,233
Issuance of convertible preferred stock, net of issuance costs	23,685,652	21,596	—	—	—	—	—	—	—
Repurchase of unvested early exercised stock options	—	—	(62,500)	—	—	2	—	—	2
Repayment of stockholders' note receivable	—	—	—	—	—	20	—	—	20
Vesting of early exercised stock options	—	—	—	1	252	—	—	—	253
Foreign currency translation	—	—	—	—	—	—	247	—	247
Net loss	—	—	—	—	—	—	—	(28,154)	(28,154)
Balances at December 31, 2015	167,242,376	92,796	59,998,663	7	6,121	(634)	405	(96,096)	(90,197)
Issuance of common stock upon exercise of stock options for cash, net of unvested early exercises	—	—	2,193,125	—	320	—	—	—	320
Stock-based compensation	—	—	—	—	1,398	—	—	—	1,398
Issuance of convertible preferred stock, net of issuance costs	36,711,701	20,325	—	—	—	—	—	—	—
Repurchase of unvested early exercised stock options	—	—	(153,992)	—	—	—	—	—	—
Repurchase of common stock	—	—	(5,000)	—	(3)	—	—	—	(3)
Repayment of stockholders' notes receivable	—	—	—	—	—	113	—	—	113
Vesting of early exercised stock options	—	—	—	—	158	—	—	—	158
Foreign currency translation	—	—	—	—	—	—	67	—	67
Net loss	—	—	—	—	—	—	—	(20,589)	(20,589)
Balances at December 31, 2016	203,954,077	$ 113,121	62,032,796	$ 7	$ 7,994	$ (521)	$ 472	$ (116,685)	$ (108,733)

The accompanying notes are an integral part of these consolidated financial statements.

SI-BONE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,	
	2015	2016
Cash flows from operating activities		
Net loss	$(28,154)	$(20,589)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	786	1,038
Change in allowance for doubtful accounts	123	(84)
Stock-based compensation	1,231	1,398
Change in fair value of convertible preferred stock warrants	(8)	(414)
Loss on write-off of property and equipment	527	337
Amortization of debt discount	155	299
Write-off of deferred offering costs	—	1,460
Changes in operating assets and liabilities		
Accounts receivable	(15)	(98)
Inventory	(1,015)	1,186
Prepaid expenses and other assets	(481)	215
Accounts payable	(499)	(1,469)
Accrued liabilities and other	632	(32)
Net cash used in operating activities	(26,718)	(16,753)
Cash flows from investing activities		
Purchase of property and equipment	(2,238)	(441)
Net cash used in investing activities	(2,238)	(441)
Cash flows from financing activities		
Proceeds from the exercise of common stock options, net	835	320
Repurchase of common stock	—	(3)
Repayment of stockholders' notes receivable	20	113
Proceeds from debt financing	10,000	4,000
Repayment of borrowings	—	—
Proceeds from the issuance of convertible preferred stock, net	21,596	20,325
Payments of offering costs	(1,068)	—
Net cash provided by financing activities	31,383	24,755
Effect of exchange rate changes on cash and cash equivalents	247	67
Net increase in cash and cash equivalents	2,674	7,628
Cash and cash equivalents at		
Beginning of year	17,598	20,272
End of year	$ 20,272	$ 27,900
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 1,480	$ 2,994
Supplemental disclosure of noncash information		
Vesting of early exercised stock options	$ 253	$ 158
Purchase of property and equipment included in accounts payable and accrued liabilities	6	—
Issuance of convertible preferred stock warrants	640	45
Repurchase of unvested early exercised stock options	2	—
Offering costs in accounts payable and accrued liabilities	392	—

The accompanying notes are an integral part of these consolidated financial statements.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. The Company and Basis of Presentation

SI-BONE, Inc. (the "Company") was incorporated in the state of Delaware on March 18, 2008 and is headquartered in San Jose, California. The Company is a medical device company that has pioneered a proprietary minimally invasive surgical implant system to fuse the sacroiliac joint for treatment of the most common types of sacroiliac joint disorders that cause lower back pain. The Company introduced its iFuse Implant System, or iFuse, in 2009 in the United States, in 2010 in certain countries in the European Union, and in 2015 in certain countries in the rest of the world.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP). The consolidated financial statements include the Company's accounts, as well as those of the Company's three wholly-owned international subsidiaries. All inter-company accounts and transactions have been eliminated.

Unaudited Pro Forma Stockholders' Equity

The December 31, 2016 unaudited pro forma stockholders' equity has been prepared assuming immediately prior to the completion of the Company's initial public offering: (i) the automatic conversion of all outstanding shares of preferred stock into shares of common stock; (ii) the net exercise of certain preferred stock warrants, assuming an initial public offering price of $ per share, that will expire upon the completion of the Company's initial public offering, if not exercised, and the related reclassification of the warrant liability to common stock and additional paid-in-capital; and (ii) the automatic conversion of certain preferred stock warrants into common stock warrants.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Significant accounting estimates and management judgments reflected in the consolidated financial statements include: fair value of assets and liabilities; analysis of the allowance for doubtful accounts; inventory valuation; valuation of deferred tax assets, including related valuation allowances; fair value of common stock and convertible preferred stock warrants; stock-based compensation; and depreciation and amortization lives of long lived assets. Estimates are based on historical experience, where applicable and other assumptions believed to be reasonable by the management. Actual results could differ from those estimates.

Segments

The chief operating decision makers for the Company are the Chief Executive Officer and Chief Financial Officer. The Chief Executive Officer and the Chief Financial Officer review financial information presented on a consolidated basis, accompanied by information about revenue by geographic region, for purposes of evaluating financial performance. The Company has one business activity and there are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, the Company has determined that it has a single reportable and operating segment structure. The Company and its Chief Executive Officer and Chief Financial Officer evaluate performance based primarily on revenue in the geographic locations in which the Company operates.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company derives substantially all of its revenue from sales to customers in the United States. Revenue by geography is based on billing address of the customer. No single country outside the United States accounts for more than 10% of the total revenue during the periods presented. Long-lived assets held outside the United States are immaterial.

	Year Ended December 31,	
	2015	2016
Domestic	$38,441	$38,791
International	2,732	3,310
	$41,173	$42,101

Foreign Currency

The Company's foreign subsidiaries use local currency as their functional currency. Assets and liabilities are translated at exchange rates prevailing at the balance sheet dates. Revenue, costs and expenses are translated into U.S. dollars using average exchange rates for the period. Gains and losses resulting from the translation of the Company's consolidated balance sheets are recorded as a component of accumulated other comprehensive income. Gains and losses from foreign currency transactions are recognized as a component of other income (expense), net.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents. The Company's cash and cash equivalents are deposited with financial institutions in the United States and in Europe; the majority of the Company's cash and cash equivalents are deposited with a single financial institution in the United States. Deposits in this institution exceed the amount of insurance provided on such deposits. The Company has not experienced any losses on its deposits of cash and cash equivalents.

The Company's revenue and accounts receivable are spread across a large number of customers, primarily in the United States, and no one customer accounts for more than 10% of total revenue or gross accounts receivable in any period presented.

Other Risks and Uncertainties

The Company is subject to risks common to early-stage medical device companies including, but not limited to, new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations, product liability, the ability to obtain adequate coverage and reimbursement from third party payors, uncertainty of market acceptance of products, and the need to obtain additional financing.

The Company is dependent on third party manufacturers and suppliers, in some cases single source suppliers. The Company currently has limited long term contracts with its key suppliers and is subject to risks such as manufacturing failures, non-compliance with regulatory requirements, price fluctuations, inability to properly meet demand and third party supplier discontinuation of operations.

Liquidity

As of and for the year ended December 31, 2016, the Company had an accumulated deficit of $116.7 million and used $16.8 million of cash in operations, respectively. The Company has not achieved

positive cash flow from operations to date. The Company held cash and cash equivalents of $27.9 million as of December 31, 2016. The Company continues to face challenges and uncertainties and, as a result, the Company's available capital resources may be consumed more rapidly than currently expected due to (a) decreases in sales of the Company's products and the uncertainty of future revenues from new products; (b) changes the Company may make to the business that affect ongoing operating expenses; (c) changes the Company may make in its business strategy; (d) regulatory developments affecting the Company's existing products; (e) changes the Company may make in its research and development spending plans; and (f) other items affecting the Company's forecasted level of expenditures and use of cash resources. Accordingly, the Company may need to raise additional funds to support its operating and capital needs in the first quarter of 2018 and beyond. These factors raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the financial statements are issued.

The Company intends to obtain additional funding through public or private financing or through additional credit lines or other debt financing sources to increase the funds available to fund operations. However, the Company may not be able to secure such financing in a timely manner or on favorable terms, if at all. Without additional funds, the Company may be forced to delay, scale back or eliminate some of its sales and marketing efforts, research and development activities, or other operations in an effort to provide sufficient funds to continue its operations.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern and therefore, the financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amount and classifications of liabilities that may result from the outcome of this uncertainty.

Fair Value of Financial Instruments

Carrying amounts of certain of the Company's financial instruments, including cash and cash equivalents, accounts receivable, accounts payable, and accrued liabilities approximate fair value due to their relatively short maturities and market interest rates, if applicable. The carrying value of the Company's long-term debt also approximates fair value based on management's estimation that a current interest rate would not differ materially from the stated rate. The carrying amount of the convertible preferred stock warrants has been marked-to-market such that the carrying amount represents its estimated fair value.

The Company discloses and recognizes the fair value of its assets and liabilities using a hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, a three-tier value hierarchy has been established, which prioritizes the inputs used in measuring fair value as follows:

Level 1: Quoted prices (unadjusted) in active market that are accessible at measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Observable prices that are based on inputs not quoted on active markets, but corroborated by market data.

Level 3: Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and considers factors specific to the asset or liability.

The Company's cash equivalents consist primarily of money market funds as of December 31, 2015. The Company does not have any cash equivalents as of December 31, 2016. The Company's cash equivalents are comprised of investments in money market funds that are classified as Level 1 of the fair value hierarchy. The Company's convertible preferred stock warrants are classified within Level 3 of the fair value hierarchy. The convertible preferred stock warrants have been valued using a Black-Scholes valuation model and are subsequently marked to fair value each reporting period. The related input assumptions are discussed in Note 9.

Cash and Cash Equivalents

The Company considers all highly liquid investments with remaining maturities at the date of purchase of three months or less to be cash equivalents.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are recorded at the invoiced amount and do not bear interest. The Company generally does not require collateral or other security in support of accounts receivable. Allowances are provided for individual accounts receivable when the Company becomes aware of a customer's inability to meet its financial obligations, such as in the case of bankruptcy, deterioration in the customer's operating results or change in financial position. If circumstances related to customers change, estimates of the recoverability of receivables would be further adjusted. The Company also considers broad factors in evaluating the sufficiency of its allowance for doubtful accounts, including the length of time receivables are past due, significant one-time events, creditworthiness of customers and historical experience. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Inventory

Inventory is stated at lower of cost or market value. Market value is determined as the lower of replacement cost or net realizable value. The company establishes the inventory basis by determining the cost based on standard costs approximating the purchase costs on a first-in, first-out basis. The excess and obsolete inventory is estimated based on future demand and market conditions. Inventory write-downs are charged to cost of goods sold. As of December 31, 2015 and 2016, inventory consisted entirely of finished goods.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. All property and equipment is depreciated on a straight-line basis over the estimated useful lives of the assets, which are as follows:

Computer and office equipment	3 – 5 years
Machinery and equipment	3 – 5 years
Furniture and fixtures	7 years

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Leasehold improvements are amortized over the lesser of their useful lives or the life of the lease. Upon sale or retirement of the assets, the cost and related accumulated depreciation are removed from the balance sheet and the resulting gain or loss is recognized in the statement of operations. Maintenance and repairs are charged to operations as incurred.

Intangible assets

Intangible assets consist of intellectual property related to the SI-joint developed technologies acquired by the Company in March 2008. Intangible assets are amortized over the period of estimated benefit using the straight-line method and estimated useful lives of approximately 15 years. No residual value is estimated for intangible assets.

Impairment of Long-Lived Assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset might not be recoverable. When such an event occurs, management determines whether there has been an impairment by comparing the anticipated undiscounted future net cash flows to the related asset's carrying value. If an asset is considered impaired, the asset is written down to fair value, which is determined based either on discounted cash flows or appraised value, depending on the nature of the asset. Through December 31, 2016, the Company has not experienced impairment losses on its long-lived assets.

Offering Costs

Specific incremental costs (i.e. consisting of legal, accounting and other fees and costs) directly attributable to a proposed or actual offering of securities may properly be deferred and charged against the gross proceeds of the offering. In the event a planned IPO does not occur or is significantly delayed, all of the costs will be expensed. There were $1.5 million and $0 of offering costs capitalized as of December 31, 2015 and 2016, respectively, in other non-current assets on the consolidated balance sheets. The $1.5 million of offering costs incurred in 2015 were expensed to General and Administrative expenses in 2016 when IPO plans were delayed.

Common Stock Warrants

The Company accounts for warrants for shares of common stock as equity in accordance with the accounting guidance for derivatives. The accounting guidance provides a scope exception from classifying and measuring as a financial liability a contract that would otherwise meet the definition of a derivative if the contract is both (i) indexed to the entity's own stock and (ii) classified in the stockholders' deficit section of the balance sheet. The Company determined that the warrants for shares of common stock issued in connection with the debt arrangement are required to be classified in equity. Warrants classified as equity are recorded as additional paid- in capital on the consolidated balance sheet and no further adjustments to their valuation are made.

Convertible Preferred Stock Warrants

Warrants and other similar instruments related to shares that are contingently redeemable are classified as liabilities on the balance sheet at their estimated fair value because the shares underlying the warrants may obligate the Company to transfer assets to the holders at a future date under certain circumstances such as a deemed liquidation event. The warrants are exercisable into the Company's convertible preferred stock and are classified as liabilities on the balance sheet. The warrants, measured at fair value, are subject to re-measurement at each balance sheet date and the change in fair value, if any, is recognized as other income (expense), net. The

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Company will continue to adjust the liability for changes in fair value until the earlier of (i) exercise of the warrants, (ii) conversion into equity classified warrants to purchase common stock, or (iii) expiration of the warrants. The remaining value of the convertible preferred stock warrants will be reclassified to common stock with no further remeasurement required upon exercise of the warrants or conversion into equity classified warrants to purchase common stock.

The Company estimates the fair value of these liabilities using option pricing models and assumptions that are based on the individual characteristics of the warrants on the valuation date, as well as assumptions for future financings, expected volatility, expected life, yield, and risk-free interest rate.

Revenue Recognition

The Company's revenue is derived from the sale of its products to medical groups and hospitals through its direct sales force and distributors throughout the United States and Europe.

The Company recognizes revenue when persuasive evidence of an arrangement exists, title and risk of loss has transferred to the customer, the sales price is fixed or determinable, and collectability is reasonably assured. For the majority of product sales where the Company's sales representative delivers the product at the point of implantation at hospitals or other medical facilities, the Company recognizes revenue related to product sales upon delivery of the product and receipt of a purchase agreement or agreement on pricing terms with the customer. For the remaining sales to distributors, where the product is ordered in advance of implantation and a valid purchase order has been received, the Company recognizes revenue upon the delivery of product and when all other revenue recognition criteria are met.

Medical Device Excise Tax

In accordance with the Patient Protection and Affordable Care Act, effective January 1, 2013, the Company began to incur an excise tax on sales of medical devices in the United States. The medical device excise tax is included in cost of goods sold in the consolidated statements of operations and comprehensive loss for all the periods presented. Effective December 2015, the Act was amended to include a provision to suspend the sales tax on medical devices through 2017.

Shipping and Handling Costs

Shipping and handling costs are expensed as incurred and are included in cost of goods sold.

Research and Development

Research and development costs are charged to operations as incurred and consist of costs incurred by the Company for the development of the Company's product which include (1) employee-related expenses, including salaries, benefits, travel and non-cash stock-based compensation expense (2) external research and development expenses (3) other expenses, which include direct and allocated expenses for facilities and other costs.

Advertising Expenditures

The cost of advertising is expensed as incurred. Advertising costs totaled $1.0 million for the years ended December 31, 2015 and 2016.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Stock-Based Compensation

The Company measures its stock-based awards made to employees based on the estimated fair values of the awards as of the grant date using the Black-Scholes option-pricing model. The model requires management to make a number of assumptions including expected volatility, expected life, risk-free interest rate and expected dividends. Stock-based compensation expense is recognized over the requisite service period using the straight- line method and is based on the value of the portion of stock-based payment awards that is ultimately expected to vest. As such, the Company's stock-based compensation is reduced for the estimated forfeitures at the date of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Equity instruments issued to nonemployees are recorded at their fair value on the measurement date and are subject to periodic adjustments as the underlying equity instruments vest. The Company believes that the estimated fair value of the stock options is more readily measurable than the fair value of the services received. Stock based compensation related to stock options granted to nonemployees is recognized as the stock options are earned.

Income Taxes

The Company accounts for income taxes under the asset and liability method, whereby deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using the enacted tax rates in effect for the year in which the differences are expected to affect taxable income. A valuation allowance is established when necessary to reduce deferred tax assets to the amounts expected to be realized.

The Company adopted the accounting guidance for uncertainties in income taxes, which prescribes a recognition threshold and measurement process for recording uncertain tax positions taken, or expected to be taken, in a tax return in the financial statements. The guidance also prescribes treatment for derecognition, classification, accounting in interim periods and disclosure requirements for uncertain tax positions. The Company accrues for the estimated amount of taxes for uncertain tax positions if it is more likely than not that the Company would be required to pay such additional taxes. An uncertain tax position will not be recognized if it has a less than 50% likelihood of being sustained.

Net Loss per Share of Common Stock

Basic net loss per common share is calculated by dividing the net loss by the weighted-average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss by the weighted- average number of common shares and potentially dilutive securities outstanding for the period. For purposes of the diluted net loss per share calculation, convertible preferred stock and common stock options and warrants are considered to be potentially dilutive securities. Because the Company has reported a net loss in all periods presented, the convertible preferred stock and common stock options and warrants are anti-dilutive and therefore diluted net loss per common share is the same as basic net loss per common share for those periods.

Comprehensive Loss

Comprehensive loss represents all changes in the stockholders' deficit except those resulting from distributions to stockholders. The Company's unrealized foreign currency translation income (losses) represents the only component of other comprehensive income that is excluded from the reported net loss for each of the reporting periods and has been presented in the consolidated statements of operations and comprehensive loss.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09, Revenue from Contracts with Customers, which required an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. ASU 2014-09 will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. The new standard is effective January 1, 2018 for public companies. Early application is permitted as of January 1, 2017. The standard permits the use of either the retrospective or cumulative effect transition method. In March 2016, the FASB issued ASU 2016-08, Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net), which clarifies the implementation guidance on principal versus agent considerations in ASU 2014-09. In April 2016, the FASB issued ASU 2016-10, Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing, which clarifies certain aspects of identifying performance obligations and licensing implementation guidance. In May 2016, the FASB issued ASU 2016-12, Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients, which relates to disclosures of remaining performance obligations, as well as other amendments to guidance on collectability, non-cash consideration and the presentation of sales and other similar taxes collected from customers. These standards have the same effective date and transition date of January 1, 2018. The Company currently anticipates adopting the standard electing the full retrospective transition method to restate each prior period presented and plans to adopt this accounting standard in the first quarter of fiscal year 2018. Management is undergoing an initial assessment of the new standard, which includes the review of contracts and revenue channels.

In August 2014, the FASB issued ASU 2014-15, Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern. The ASU requires management to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. In doing so, companies will have reduced diversity in the timing and content of footnote disclosures than under today's guidance. The Company has adopted ASU 2014-15 as of the year ended December 31, 2016. The adoption of the ASU did not have a material impact on the Company's consolidated financial statements and related disclosures.

In July 2015, the FASB issued ASU 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory. ASU 2015-11 simplifies the guidance on the subsequent measurement of inventory, excluding inventory measured using last-in, first out or the retail inventory method. Under the new standard, in scope inventory should be measured at the lower of cost and net realizable value. The new standard will become effective for the Company in fiscal year 2017, with early adoption permitted. The adoption of this guidance does not have a material impact on the Company's consolidated financial statements.

In November 2015, the FASB issued ASU 2015-17, Balance Sheet Classification of Deferred Taxes. ASU 2015-17 specifies that deferred tax assets and liabilities shall be classified as noncurrent, or long-term, in a classified statement of financial position. The ASU is effective for public entities for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Earlier application is permitted for all entities as of the beginning of an interim or an annual reporting period. The adoption of this guidance is not expected to have a material impact on the Company's consolidated financial statements.

In February 2016, the FASB issued its new lease accounting guidance. Under the new guidance, ASU 2016-02, Leases, lessor accounting is largely unchanged. The new lease guidance simplifies the accounting for sale and leaseback transactions primarily because lessees must recognize lease assets and lease liabilities. Under the new guidance, lessees will be required to recognize a lease liability, which is a lessor's obligation to make lease payments arising from a lease, measured on a discounted basis; and a right-of-use asset, which is an asset that represents the lessee's right to use, or control use of, a specified asset for the lease term for all leases (with the exception of short-term leases) at the adoption date. The new guidance is effective for fiscal years, and for

interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted for any interim or annual financial statements net yet issued. Lessees (for capital and operating leases) and lessors (for sales-type, direct financing and operating leases) must apply a modified retrospective approach for all leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In March 2016, the FASB issued ASU 2016-09, which simplified several aspects of accounting for stock-based compensation transactions. The areas for simplification in this update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The new guidance is effective for public entities in years beginning after December 15, 2016 and in interim periods within those years. Other entities must apply the new guidance in years beginning after December 15, 2017 and in interim periods within years beginning after December 15, 2018. The Company will adopt this standard in the first quarter of 2017 by recording the cumulative impact of applying this guidance to retained earnings, which is not expected to be material. The Company will also elect to continue to estimate the number of awards that are expected to vest.

In August 2016, the FASB issued ASU 2016-15 “Statement of Cash Flows (Topic 230), Classification of Certain Cash Receipts and Cash Payments” (“ASU 2016-15”). ASU 2016-15 provides guidance on the following eight specific cash flow classification issues: (1) debt prepayment or debt extinguishment costs; (2) settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; (3) contingent consideration payments made after a business combination; (4) proceeds from the settlement of insurance claims; (5) proceeds from the settlement of corporate-owned life insurance policies, including bank-owned life insurance policies; (6) distributions received from equity method investees; (7) beneficial interests in securitization transactions; and (8) separately identifiable cash flows and application of the predominance principle. Current GAAP does not include specific guidance on these eight cash flow classification issues. The amendments of this ASU are effective for reporting periods beginning after December 15, 2017, with early adoption permitted. The Company is currently evaluating the impact of adopting ASU 2014-15 on our consolidated financial statements and related disclosures.

3. Fair Value Measurement

The following table sets forth the fair value of the Company’s financial assets and liabilities measured at fair value on a recurring basis based on the three-tier fair value hierarchy (in thousands):

	Balance as of December 31, 2015			
	Level 1	Level 2	Level 3	Total
Assets				
Money Market funds[1]	$17,762	$ —	$ —	$17,762
Liabilities				
Convertible preferred stock warrants	$ —	$ —	$ 957	$ 957

	Balance as of December 31, 2016			
	Level 1	Level 2	Level 3	Total
Liabilities				
Convertible preferred stock warrants	$ —	$ —	$ 588	$ 588

[1] Included in cash and cash equivalents on the consolidated balance sheet

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table sets forth a summary of the changes in the fair value of the convertible preferred stock warrants, the Company's Level 3 financial liability, which is measured on a recurring basis (in thousands):

Balances at January 1, 2015	$ 325
Fair value of convertible preferred stock warrants issued	640
Change in fair value recorded in other (income) expense, net	(8)
Balances at December 31, 2015	957
Fair value of convertible preferred stock warrants issued	45
Change in fair value recorded in other (income) expense, net	(414)
Balances at December 31, 2016	$ 588

4. Balance Sheet Components

Property and Equipment, net (in thousands):

	December 31,	
	2015	2016
Machinery and equipment	$ 2,128	$ 2,942
Construction in progress	1,629	1,131
Computer and office equipment	634	275
Leasehold improvements	254	272
Furniture and fixtures	25	25
	4,670	4,645
Less: Accumulated depreciation and amortization	(1,136)	(2,037)
	$ 3,534	$ 2,608

Accrued Liabilities and Other (in thousands):

	December 31,	
	2015	2016
Accrued compensation, travel and related expenses	$2,787	$2,737
Sales tax payable	423	448
Stock repurchase rights	311	168
Accrued professional services	267	203
Accrued clinical services	180	69
Accrued interest	85	86
Deferred rent	70	89
Others	192	325
	$4,315	$4,125

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

5. Commitments and Contingencies

Operating Leases

In August 2012, the Company entered into a new four year non-cancelable operating lease for its existing office building space in San Jose, California which commenced in January 2013. In February 2014, the Company expanded the existing lease space and extended the lease terms through June 2017. In May 2016, the Company entered into another extension of the lease with its lessor for additional 12 months beginning in July 2017. There is no renewal option under the operating lease.

In January 2011, the Company entered into a five year non-cancelable operating lease for its office building space in Milan, Italy. Unless sufficient notice has been provided to terminate the lease twelve months prior to expiration, the lease will automatically extend for another six-year term. In January 2016, the terms of the lease were extended for another five years under the same agreement. In September 2015, the Company entered into an additional five year non-cancelable operating lease for additional floor space in its office building in Milan, Italy.

In November 2014, the Company entered into a five year non-cancelable operating lease for its office building space in Mannheim, Germany.

In December, 2015, the Company entered into a three year non-cancelable operating lease for its office building space in Knaresborough, United Kingdom.

The Company also leases vehicles under operating lease arrangement for the Company's sales personnel in Europe. Operating leases under such arrangements expire during various times in 2019.

Rent expense is recorded over the lease terms on a straight-line basis. Rent expense charged to operations under operating leases for years ended December 31, 2015 and 2016 totaled approximately $913,000 and $1.0 million, respectively.

The aggregate future minimum lease payments under all leases are as follows (in thousands):

Year Ending December 31,	
2017	$1,248
2018	665
2019	86
2020	40
2021	40
Thereafter	32
	$2,111

Contingencies

From time to time, the Company may have certain contingent liabilities that arise in the ordinary course of business activities. The Company accrues a liability for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated.

Legal Proceedings

The Company is subject to claims and assessments from time to time in the ordinary course of business but does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company's financial position, results of operations or cash flows.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Indemnification

The Company enters into standard indemnification arrangements in the ordinary course of business. Pursuant to these arrangements, the Company indemnifies, holds harmless, and agrees to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, in connection with any trade secret, copyright, patent or other intellectual property infringement claim by any third-party with respect to the Company's technology. The term of these indemnification agreements is generally perpetual. The maximum potential amount of future payments the Company could be required to make under these agreements is not determinable because it involves claims that may be made against the Company in the future, but have not yet been made.

The Company has entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct of the individual.

The Company has not incurred costs to defend lawsuits or settle claims related to these indemnification agreements. No liability associated with such indemnifications has been recorded to date.

6. Borrowings

The Company has the following outstanding debt which includes debt discounts as of December 31, 2015 and 2016 (in thousands):

	December 31,	
	2015	2016
Term Loan	$25,056	$29,310
Total Borrowings	25,056	29,310
Less: Short-Term Borrowings	—	8,236
Long-Term Borrowings	$25,056	$21,074

Term Loan

In October 2015, the Company entered into a Term Loan facility and a revolving line of credit with Silicon Valley Bank, or SVB, and Oxford Finance LLC, or Oxford, for $35.2 million. The first tranche of the Term Loan closed in October 2015 for $16.2 million, of which $15.5 million (including $0.3 million of interest) of the proceeds were used to pay off the existing loans with SVB. The additional $0.7 million relate to the payment of final fees due on previous loans. Prepayment fees on the then existing debt facilities were waived. The loan includes an interest-only period through March 31, 2017 and is then repaid over thirty-three (33) months of equal principal payments plus interest. In November 2015, the Company drew the second tranche of $10.0 million, which is coterminous with the first tranche. Under the Term Loan, the Company also has available a third tranche of $4.0 million through September 30, 2016 and a fourth tranche of $5.0 million through December 31, 2016. Both tranches are contingent upon the achievement of certain goals.

The Company accounted for SVB's, portion of the term loan facility as a modification of its existing debt facility as the change in cash flows was less than 10%. As such, a new effective interest rate was established based on the carrying value of the debt and the revised cash flows. Based on the guidance for loan modification, no gains or losses were recorded on the old debt and new fees paid to or received from existing lenders were capitalized and amortized as part of the effective yield. As a result, the Company accounted for the portion of the

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

$0.7 million of final fees related to the previous loans, not yet recognized in interest expense, as a debt discount. This amount will be amortized over the remaining period of the Term Loan as part of the new effective interest rate.

In August 2016, the Company amended the agreement to remove the revenue requirement for the third tranche and extended the draw period of the fourth tranche for additional three months. In December 2016, the Company withdrew the third tranche of the Term Loan of $4.0 million. The agreement also provides for the fourth tranche of $5.0 million to be available through March 2017 contingent upon the Company achieving at least $24.0 million in trailing six-month revenues. The maturity date of the term loan is December 1, 2019, and it carries an interest rate equal to the greater of 11% or the WSJ Prime rate plus 7.75%. As of December 31, 2016, the total loan balance was $30.2 million with an effective interest rate of 12.45%. The Term Loan are senior unsecured obligations of the Company, ranking equally and ratably among themselves and with the Company's existing and future unsecured and unsubordinated debt.

All debt facilities continue to be collateralized by all of the Company's assets except intellectual property. The Company agreed not to pledge a security interest in its intellectual property to any other party so long as SVB and Oxford have debt outstanding to the Company. As of December, 31, 2016, the Company in compliance with all debt covenants.

In conjunction with the above Term Loan agreements, the Company issued convertible preferred stock warrants (Note 9).

Approximate annual future minimum principal payments under the loan agreements as of December 31, 2016 are as follows (in thousands):

Year Ending at December 31,	
2017	$ 8,236
2018	10,982
2019	10,982
2020	—
2021 and thereafter	—
Total future minimum payments	30,200
Less:	
Amount representing debt discount	(890)
Total minimum payments	$29,310

Line of Credit

In October 2015, the Company entered into an agreement with its existing lender SVB and Oxford. The amount of the revolving line of credit is $4.0 million (or 80% of the amount of certain customer accounts receivable). It carries an interest rate equal to the WSJ Prime rate plus 3% with a maturity of December 1, 2019. No draws have been made on this facility as of December 31, 2016. Borrowings under this agreement were collateralized by all of the Company's assets, excluding any intellectual properties.

7. Common Stock

The Company's restated certificate of incorporation, as amended, authorizes the Company to issue 338,000,000 shares of $0.0001 par value common stock, of which 108,000,000 has been designated as Series 1

common stock and 230,000,000 has been designated as Series 2 common stock. The holders of Series 1 common stock shall have no voting rights; the holders of Series 2 common stock shall have the right to one vote for each such share. The holders of common stock are also entitled to receive dividends whenever funds are legally available, as, when, and if declared by the Board of Directors. There have been no dividends declared to date.

The Company has reserved shares of common stock, on an issued and as-converted basis, for future issuance as follows:

	December 31, 2016	
	Issued and Outstanding Shares	Common Stock Equivalent Shares
Common stock	62,032,796	62,032,796
Convertible preferred stock	203,954,077	206,835,359
Stock options outstanding	44,322,182	44,322,182
Stock options available for grant	5,670,695	5,670,695
Common stock warrant	2,212,918	2,212,918
Convertible preferred stock warrant	2,817,988	2,878,694
Total	321,010,656	323,952,644

8. Convertible Preferred Stock

Convertible preferred stock (“preferred stock”) at December 31, 2015 consisted of the following:

Series	Shares Issued		Carrying Value	Liquidation Value
	Authorized	Outstanding	(in thousands)	
Series 1	4,411,731	4,411,731	$ 154	$ 154
Series 2	12,773,107	12,773,107	1,489	1,520
Series 3	8,981,250	8,981,250	2,862	2,874
Series 4	45,162,853	45,162,853	15,656	15,807
Series 5	38,000,000	36,166,158	18,127	18,275
Series 6	67,000,000	59,747,277	54,508	54,674
Total	176,328,941	167,242,376	$ 92,796	$ 93,304

Convertible preferred stock (“preferred stock”) at December 31, 2016 consisted of the following:

Series	Shares Issued		Carrying Value	Liquidation Value
	Authorized	Outstanding	(in thousands)	
Series 1	4,411,731	4,411,731	$ 154	$ 154
Series 2	12,773,107	12,773,107	1,489	1,520
Series 3	8,981,250	8,981,250	2,862	2,874
Series 4	45,162,853	45,162,853	15,656	15,807
Series 5	37,550,484	36,166,158	18,127	18,275
Series 6	61,006,095	59,747,277	54,508	54,674
Series 7	38,068,315	36,711,701	20,325	20,463
Total	207,953,835	203,954,077	$ 113,121	$ 113,767

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The holders of preferred stock have various rights and preferences as follows:

Voting Rights

The holders of Series 1, Series 2, Series 3, Series 4, Series 5, Series 6, and Series 7 convertible preferred stock shares are entitled to vote on all matters on which the common stockholders are entitled to vote. The holders of Series 1, Series 2, Series 3 shall have the right to 0.352941 votes for each share of Series 2 common stock into which such preferred stock would convert and the holders of Series 4, Series 5, Series 6 and Series 7 shall have the right to one vote for each share of Series 2 common stock into which such preferred stock would convert. As long as there are any shares of Series 4, Series 5, Series 6, and Series 7 shares are outstanding, the holders of such Series 4, Series 5, Series 6 and Series 7 shall, at each respective series, be entitled to elect one member of the Board of Directors each; the holders of Series 2 common stock shall be entitled to elect two members of the Board of Directors; and the holders of the preferred stock and Series 2 common stock, voting together as a single class shall be entitled to elect the remaining members of the Board of Directors, as determined at each annual meeting of the Board of Directors.

As long as at least 5,000,000 convertible preferred stock shares remain outstanding, the Company must obtain approval from a majority of the holders of the then outstanding shares of convertible preferred stockholders and a majority of the voting power of all outstanding shares of Series 5 preferred stock in order to (i) consummate or agree to consummate a Liquidation Event (as defined in the Company's certificate of incorporation); (ii) amend, alter, restate or repeal any provision of the Company's certificate of incorporation or bylaws so as to adversely alter, affect or change the powers, preferences, rights or privileges of the shares of preferred stock; (iii) increase or decrease (other than by redemption or conversion) the total number of authorized shares of common stock or preferred stock or designated shares of any series of preferred stock; (iv) authorize or issue, or obligate itself to issue, any equity security (including any other security convertible into or exercisable for any such equity security) having a preference over, or being on a parity with, any series of preferred stock with respect to dividends, liquidation or redemption, other than the issuance of any authorized but unissued shares of Series 6 preferred stock designated in the Company's certificate of incorporation (including any security convertible into or exercisable for such shares of preferred stock); (v) redeem, purchase or otherwise acquire (or pay into or set aside for a sinking fund for such purpose) any share or shares of preferred stock or common stock; provided, however, that this restriction shall not apply to the repurchase of shares of common stock from employees, officers, directors, consultants or other persons performing services for the Company or any subsidiary pursuant to agreements under which the Company has the option to repurchase such shares upon the occurrence of certain events, such as the termination of employment or service, or pursuant to an agreement providing for a right of first refusal in favor of the Company, in each case, provided that such agreement has been approved by the Company's board of directors; or (vi) pay or declare any dividend on any shares of capital stock of the Company.

Dividends

The holders of preferred stock are entitled to receive noncumulative dividends, when and if declared by the Board of Directors, out of any assets legally available, prior to and in preference to any declaration or payment of dividends on the common stock of the Company. Dividend rates, on a per annum basis, for Series 1, Series 2, Series 3, Series 4, Series 5, Series 6, and Series 7 preferred stocks are $0.002784, $0.00952, $0.0256, $0.028, $0.04043, $0.073208, and $0.044592, respectively, (adjusted to reflect subsequent stock dividends, stock splits or recapitalization).

After payment of such dividends, any additional dividends shall be distributed to the holders of all preferred stock and common stock on a pro rata basis in proportion to the number of common stock held by each

shareholder as if the preferred stock had been converted at the effective conversion rate. No dividends on preferred stock or common stock have been declared as of December 31, 2016.

Liquidation

In the event of (A) the closing of the sale, lease, transfer, exclusive license or other disposition of all or substantially all of the Company's assets, in a single transaction or series of related transactions, by the Company or any subsidiary or subsidiaries of the Company, of all or substantially all the assets of the Company and its subsidiaries taken as a whole (or, if substantially all of the assets of the Company and its subsidiaries taken as a whole are held by one or more subsidiaries, the sale or disposition (whether by consolidation, merger, conversion or otherwise) of such subsidiaries of the Company or all or substantially all of the assets of such subsidiaries), except where such sale, lease, transfer, exclusive license or other disposition is made the Company or one or more wholly owned subsidiaries of the Company, (B) the consummation of a merger, consolidation or acquisition in which (x) the Company is a constituent party or (y) a subsidiary of the Company is a constituent party and the Company issues shares of its capital stock pursuant to such merger, consolidation or acquisition (except a merger, consolidation or acquisition involving the Company or a subsidiary in which the capital stock of the Company outstanding immediately prior to such merger, consolidation or acquisition continue to represent or are converted or exchanged for shares of capital stock which represent, immediately following such merger, consolidation or acquisition at least a majority of the voting power of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger, consolidation or acquisition, the parent corporation of such surviving or resulting corporation); (C) any transaction or series of related transactions to which the Company is a party in which in excess of fifty percent (50%) of the Company's voting power is transferred; provided that it shall not include any transaction or series of related transactions principally for bona fide equity financing purposes in which cash is received by the Company or any successor or indebtedness of the Company is cancelled or converted or a combination thereof occurs, or (D) a liquidation, dissolution or winding up of the Company, the holders of the convertible preferred stock are entitled to receive prior to and in preference to any distribution to holders of the common stock, an amount equal to their respective original issuance price per share (original issuance price per share for Series 1, Series 2, Series 3, Series 4, Series 5, Series 6, and Series 7 preferred stocks are $0.0348, $0.1190, $0.32, $0.35, $0.05053, $0.9151, and $0.5574, respectively), plus any declared but unpaid dividends on such shares. Should the Company's legally available assets be insufficient to satisfy the full liquidation preference, the funds will be distributed ratably among the holders of the convertible preferred stock in proportion to the preferential amount each holder is otherwise entitled to receive.

Upon the closing of the distribution as above, the remaining proceeds shall be distributed among the holders of Series 4, Series 5, Series 6, Series 7 preferred stock and common stock pro rata based on the number of shares of common stock held by each until the holders of the preferred stock have received the "participation cap." Thereafter, if proceeds remain, the holders of Series 7 preferred stock and common stock of this corporation shall receive all of the remaining proceeds pro rata based on the number of shares of common stock held by each (assuming full conversion of all such series 7 preferred stock). The Company has a per share "Participation Cap" of $1.8302 for the Series 6 preferred stock, $1.0106 for the Series 5 preferred stock, and $0.70 for the Series 4 preferred stock (each as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like with respect to such series of preferred stock).

Conversion

Each share of Series 1, Series 2, Series 3, Series 4, Series 5, Series 6, and Series 7 preferred stock is convertible at the option of the holder, into the number of shares of Series 2 common stock into which such shares are at the then effective conversion ratio or one to one ratio. The conversion price per share for Series 1,

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Series 2, Series 3 and Series 4, Series 5, Series 6, and Series 7 preferred stock shall be the respective issuance price per share, respectively. The initial conversion price is subject to adjustment from time to time. As discussed in Note 15, the conversion ratio of each share of Series 6 preferred stock impacted by repricing is convertible at the option of the holder on a one to 1.05 ratio.

Each share of preferred stock (shall be converted into common stock shares upon the earlier of (i) immediately before the closing of a firm commitment underwritten public offering in which the aggregate gross proceeds of not less than $50.0 million and a per share public offering of not less than 1.6722 of preferred stock, or (ii) the Company's receipt of a written request for such conversion from the holders of at least the voting majority of all outstanding preferred stock (voting as a single class and on an as-converted basis).

Other Matters

The Company has classified the preferred stock as temporary equity on the balance sheets as the shares can be redeemed upon the occurrence of certain change in control events that are outside the Company's control, including deemed liquidation, sale or transfer of the Company. The Company has not adjusted the carrying values of the preferred stock to the liquidation preferences of such shares because it is uncertain whether or when an event would occur that would obligate the Company to pay the liquidation preferences to holders of shares of preferred stock. Subsequent adjustments to the carrying values to the liquidation preferences will be made only when it becomes probable that such a liquidation event will occur.

9. Warrants

Warrants issued in connection with the debt financing are as follows (in thousands, except per share data):

Warrants to purchase	Series	Date			Number of shares Underlying Warrants	Price per Share	Fair Value at the Date of Issuance
		Issuance	Expiration				
Common stock		7/19/2013	7/22/2023	[a]	1,818,182	$ 0.22	$ 244
Common stock		11/26/2014	11/26/2024	[a]	394,736	$ 0.19	$ 47
Total common stock warrants					2,212,918		
Convertible preferred stock	Series 5	7/1/2012	7/25/2019	[b]	988,522	$ 0.51	$ 255
Convertible preferred stock	Series 5	7/19/2013	7/22/2023	[c]	395,804	$ 0.51	$ 122
Convertible preferred stock	Series 6	11/26/2014	11/26/2024	[c]	113,587	$ 0.92	$ 49
Convertible preferred stock	Series 6	10/20/2015	10/20/2025	[c]	708,120	$ 0.92	$ 396
Convertible preferred stock	Series 6	11/9/2015	11/9/2025	[c]	437,111	$ 0.92	$ 244
Convertible preferred stock	Series 7	12/22/2016	12/22/2026	[c]	174,844	$ 0.56	$ 45
Total convertible preferred stock warrants					2,817,988		
Total outstanding common and convertible preferred stock warrants					5,030,906		

[a] Common stock warrants will remain outstanding until exercised by the holder.
[b] These warrants terminate upon the earlier of (i) their expiration, (ii) immediately prior to the closing of the Company's initial public offering (IPO), or (iii) a corporate transaction as defined in the Note and Warrant Purchase Agreement dated July 25, 2012.
[c] Convertible preferred stock warrants will remain outstanding until exercised by the holder and will convert to common stock warrants upon an IPO and the convertible preferred stock warrant liability will be re-measured through the date of the IPO and if these warrants on common stock subsequently qualify for equity classification, no further re-measurement will be required thereafter. The warrants will be exercisable for 10 years from the date of issuance.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

In connection with previously issued debt, the Company issued 1,818,182 warrants to purchase common shares of the Company at an exercise price of $0.22 cents per share in July 2013. Additionally, the Company issued warrants to purchase an additional 394,736 shares of common stock at an exercise price of $0.19 cents per share in November 2014. The Company determined that its warrants to purchase shares of common stock meet the requirements for equity classification.

In conjunction with debt issued in July 2012, the Company issued warrants to purchase an aggregate of 988,522 shares of Series 5 preferred stock of the Company at an exercise price of $0.51 cents per price.

In conjunction with debt issued in 2013 and 2014, the Company issued 395,804 warrants to purchase Series 5 convertible preferred stock of the Company at an exercise price of $0.51 cents per share. Subsequently, the Company issued additional warrants to purchase 113,587 shares of Series 6 convertible preferred stock at an exercise price of $0.92 cents per share.

In conjunction with the new debt agreement with SVB and Oxford, or Term Loan agreement, (see Note 6), the Company issued warrants to purchase 708,120 shares of Series 6 convertible preferred stock at an exercise price of $0.92 cents per price in October 2015 and additional 437,111 shares of Series 6 convertible preferred stock at an exercise price of $0.92 cents per price in November 2015.

In conjunction with the Term Loan agreement and its modification (see Note 6), the Company issued additional warrants for the purchase of 174,844 shares of Series 7 convertible preferred stock at an exercise price of $0.56 cents per share in December 2016.

The fair value of warrants to purchase preferred stock are recorded at the date of issuance as a discount to the convertible note payable and amortized to interest expense over the term of the note. The debt discount is being amortized to interest expense over the term of the note using the effective interest method. The changes in the fair value of the preferred stock warrants are recorded in other income and expense.

Weighted-average assumptions used in computation of the fair value of all the convertible preferred stock warrants are summarized in the table below:

	December 31,	
	2015	2016
Remaining contractual term (in years)	6.5	4.6
Expected volatility	47.56%	44.77%
Risk-free interest rate	1.82%	1.71%
Dividend yield	0%	0%

10. Stock Option Plan

In April 2008, the Company adopted the 2008 Stock Option Plan (the “Plan”), as amended, under which the Board of Directors may issue incentive and nonqualified stock options to employees, directors and consultants. The Board of Directors has the authority to determine to whom options will be granted, the number of shares, the term and the exercise price. If an individual owns stock representing more than 10% of the outstanding shares, the price of each share shall be at least 110% of the fair market value, as determined by the Board of Directors. The exercise price of an incentive stock option and a nonqualified stock option shall not be less than 100% and 85%, respectively, of the fair market value on the date of grant. As of December 31, 2016, a total of 88,501,442 shares of common stock have been reserved for issuance under the Plan. Options granted have a term of ten years, except, options granted to individuals holding more than 10% of the outstanding shares have a term of five

years. Options generally vest over a four-year period. Certain shares issued under the Plan are exercisable immediately, but subject to a right of repurchase by the Company of any unvested shares.

The following table summarizes activity under the Plan for the years ended December 31, 2015 and 2016:

		Options Outstanding			
	Shares Available for Grant	Number of Shares	Weighted Average Exercise Price per share	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Balances at January 1, 2015	1,823,262	34,923,054	0.16		$ 1,139
Options granted	(11,328,115)	11,328,115	0.43		
Options exercised	—	(6,693,475)	0.14		$ 1,438
Options cancelled	2,922,345	(2,922,345)	0.21		
Additions to the Plan	12,290,760	—			
Balances at December 31, 2015	5,708,252	36,635,349	0.24		$ 10,840
Options granted	(11,967,085)	11,967,085	0.25		
Options exercised	—	(2,193,125)	0.17		$ 452
Options cancelled	2,087,127	(2,087,127)	0.24		
Options repurchased	153,992	—	0.20		
Additions to the Plan	9,688,409	—			
Balances at December 31, 2016	5,670,695	44,322,182	$ 0.20	7.7	$ 5,592
Options vested and exercisable-December 31, 2016		23,162,813	$ 0.18	6.8	$ 3,536
Options vested and expected to vest-December 31, 2016		41,374,659	$ 0.20	7.8	$ 5,166

The aggregate intrinsic values of options outstanding, exercisable, vested and expected to vest were calculated as the difference between the exercise price of the options and the estimated fair value of the Company's common stock, as determined by the board of directors, as of December 31, 2015 and 2016. The total grant date fair value of options that vested during the year ended December 31, 2015 and 2016 was $1.1 million, and $0.9 million, respectively.

The following table summarizes information about stock options outstanding under the Plan at December 31, 2016:

Options Outstanding			Options Exercisable	
Exercise Price	Number Outstanding	Average Remaining Contractual Life (Years)	Number Vested	Weighted-Average Exercise Price
$0.015 – $0.18	7,836,008	5.1	7,436,429	$ 0.10
$0.19 – $0.21	12,192,552	7.6	7,526,126	$ 0.19
$0.22 – $0.23	3,407,194	6.3	3,340,612	$ 0.22
$0.24 – $0.24	20,379,428	9.0	4,812,979	$ 0.24
$0.25 – $0.54	507,000	9.7	46,667	$ 0.48
	44,322,182		23,162,813	

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Early Exercise of Unvested Stock Options

Early exercises of stock options are subject to a right of repurchase by the Company of any unvested shares. The repurchase rights lapse over the original vesting period of the options. The Company accounts for the cash received in consideration for the early exercised options as a liability included in accrued liabilities, which is then reclassified to stockholders' deficit as the options vest. At December 31, 2015 and 2016, the Company had a total of 1,635,430 and 854,104 shares of common stock, respectively, subject to repurchase under the Plan and $311,000 and $168,000, respectively, of associated liabilities for the repurchase.

Stock-Based Compensation

The following table sets forth stock-based compensation expense related to options granted for the periods presented (in thousands):

	Year Ended December 31,	
	2015	2016
Cost of goods sold	$ 18	$ 20
Research and development	143	137
Sales and marketing	340	399
General and administrative	730	842
	$ 1,231	$ 1,398

Employee Stock-Based Compensation

During the years ended December 31, 2015 and 2016, the Company granted stock options to employees to purchase 11,273,115 and 11,917,085 shares of common stock, respectively, with a weighted-average grant date fair value of $0.20 and $0.10 respectively. As of December 31, 2016, there was a total unrecognized compensation cost of $2.9 million. These costs are expected to be recognized over a period of approximately 2.5 years. The Company estimates the fair value of stock options using the Black-Scholes option valuation model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The fair value of employee stock options was estimated using the assumptions below. Each of these inputs is subjective and its determination generally requires significant judgment.

Fair Value of Common Stock

The fair value of the shares of the Company's common stock underlying the stock options has historically been determined by the Company's Board of Directors. Because there has been no public market for the Company's common stock, its Board of Directors has determined the fair value of the Company's common stock at the time of grant of the option by considering a number of objective and subjective factors, including the Company's stage of development, sales of the Company's convertible preferred stock, the Company's operating and financial performance, equity market conditions affecting comparable public companies, the lack of liquidity of the Company's capital stock, and the general and industry-specific economic outlooks.

Expected Term

The expected term represents the period that the share-based awards are expected to be outstanding. The Company used the simplified method to determine the expected term, which is calculated as the average of the time to vesting and the contractual life of the options.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Expected Volatility

As the Company's common stock has never been publicly traded, the expected volatility is derived from the average historical volatilities of publicly traded companies within its industry that the Company considers to be comparable to its business over a period approximately equal to the expected term for its stock options.

Risk-Free Interest Rate

The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of the option.

Dividend Yield

The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Expected Forfeiture Rate

The Company is required to estimate forfeitures at the time of grant, and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. The Company uses historical data to estimate pre-vesting option forfeitures and record stock-based compensation expense only for those awards that are expected to vest. To the extent actual forfeitures differ from the estimates, the difference will be recorded as a cumulative adjustment in the period that the estimates are revised.

The grant date fair value of the stock option awards granted to employees was estimated at the date of grant using a Black-Scholes option-pricing model with the following assumptions:

	Year Ended December 31,	
	2015	2016
Expected term	6.25	6.25
Expected volatility	45%-50%	44%-54%
Risk-free interest rate	1.54%-1.88%	1.14%-2.19%
Dividend yield	0%	0%

Non-Employee Stock-Based Compensation

During the years ended December 31, 2015 and 2016, the Company granted 55,000 and 50,000 stock options, respectively, to nonemployees, at an average exercise price of $0.42 and $0.54 per share, respectively, and a grant date fair value of $0.27 and $0.31, respectively. The stock based compensation expense was insignificant for the all periods presented.

Option Modification/Repricing

In July 2016, the Company modified the terms of 10,365,515 vested and unvested stock option awards by reducing their exercise price from $0.44 – $0.54 to $0.24 per share. There was no change in any of the other terms of the option awards. The modification resulted in an incremental value of $432,000 being allocated to the options, of which $127,000 was recognized to expense immediately based on options that were vested at the time of the modification. The remaining incremental value of $238,000 attributable to unvested shares at December 31, 2016 will be recognized over a weighted-average remaining term of 2.55 years.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

11. Employee Benefit Plan

The Company sponsors a 401(k) plan covering all employees. Contributions made by the Company are discretionary and are determined annually by the Board of Directors. The Company has made no contributions to the 401(k) plan since its inception.

12. Income Taxes

The components of the Company's loss before income taxes were as follows (in thousands):

	Year Ended December 31,	
	2015	2016
Domestic	$ (24,700)	$ (20,429)
Foreign	(3,454)	(160)
Loss before income taxes	$ (28,154)	$ (20,589)

The components of income tax expense are as follows (in thousands):

	Year Ended December 31,	
	2015	2016
Current:		
Federal	$ —	$ —
State	—	—
Foreign	—	—
Total current	—	—
Deferred:		
Federal	9,130	6,810
State	1,037	941
Foreign	—	—
Total deferred	10,167	7,751
Change in deferred tax valuation allowance	(10,167)	(7,751)
Net deferred	—	—
Provision for income taxes	$ —	$ —

Income tax expense differs from the amount computed by applying the statutory federal income tax rate due to the following:

	Year Ended December 31,	
	2015	2016
Tax at statutory federal rate	(34.0%)	(34.0%)
State tax, net of federal benefit	(4.2%)	(4.3%)
Foreign tax differential	0.0%	0.0%
Tax credits	(1.4%)	(1.3%)
Change in deferred tax valuation allowance	36.1%	37.6%
Other	3.5%	2.0%
Total income tax expense	0.0%	0.0%

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The tax effects of temporary differences and carry forwards that give rise to significant portions of the deferred tax assets are presented below (in thousands):

	December 31,	
	2015	2016
Net operating loss carry forwards	$ 32,406	$ 39,966
Research and development credits	1,645	1,868
Depreciation and amortization	147	192
Accruals and reserves	1,398	1,321
	35,596	43,347
Less: Valuation allowance	(35,596)	(43,347)
Total deferred tax assets	$ —	$ —

The Company has established a full valuation allowance against its deferred tax assets due to the uncertainty surrounding realization of such assets.

As of December 31, 2016, the Company had net operating loss ("NOL") carryforwards of approximately $105.0 million and $83.7 million available to reduce future taxable income, if any, for federal and state income tax purposes, respectively. If not utilized, the Company's federal net operating loss carryforward begins to expire in 2029, and the state net operating loss carryforward begins to expire in 2017.

As of December 31, 2016, the Company had credit carryforwards of approximately $1.7 million and $1.5 million available to reduce future taxable income, if any, for both Federal and state income tax purposes, respectively. The Federal credits begin to expire in 2030, and the state credits have no expiration date.

The Tax Reform Act of 1986 limits the use of net operating loss and tax credit carryforwards in certain situations where changes occur in the stock ownership of a company. The Company has determined that it experienced Section 382 ownership changes in 2010 and $1.4 million of its NOLs are limited.

The Company accounts for the uncertainty in income taxes by utilizing a comprehensive model for the recognition, measurement, presentation and disclosure in financial statements of any uncertain tax positions that have been taken or are expected to be taken on an income tax return. The changes in the Company's uncertain income tax positions for the years ended December 31, 2015 and 2016 consisted of the following (in thousands):

Beginning balance as of January 1, 2015	$635
Increases in balances related to tax positions taken during 2015	196
Ending balance as of December 31, 2015	831
Increases in balances related to tax positions taken during 2016	119
Ending balance as of December 31, 2016	$950

The Company has elected to recognize interest and penalties related to uncertain tax positions as a component of income tax expense. The Company has accrued zero at December 31, 2015 and 2016 for payment of interest related to unrecognized tax benefits. None of the Company's unrecognized tax benefits that, if recognized, would affect its effective tax rate at December 31, 2016.

The Company currently has no federal or state tax examinations in progress nor has it had any federal or state examinations since inception. As a result of the Company's net operating loss carry forwards, all of its tax years are subject to federal and state tax examinations.

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

13. Related Party Transactions

In March 2013, the Company granted a loan to its then current Chief Financial Officer to assist with the exercise of his stock option grants in the form of a full recourse promissory note with an aggregate principal amount of $200,000. The note is collateralized by the common stock issued upon the exercise of the stock options, as well as personal assets of the borrower. Interest under this note will accrue at the rate of 1.09% per annum. In November 2016, the loan amount was partially repaid in the amount of $116,000 (including principle of $113,000 and interest of $3,000). The remainder of the principal balance of this note, together with all accrued and unpaid interest to date, is due in March 2018.

In February 2014, the Company granted a loan to its Chief Executive Officer to assist with the exercise of his stock option grants in the form of a full recourse promissory note with an aggregate principal amount of $437,000. The note is collateralized by the common stock issued upon the exercise of the stock options, as well as personal assets of the borrower. Interest under this note will accrue at the rate of 1.97% per annum. The principal balance of this note, together with all accrued and unpaid interest to date, is due in February 2019.

14. Net Loss Per Share of Common Stock

The following table summarizes the computation of basic and diluted net loss per share (in thousands, except share and per share data):

	Year Ended December 31,	
	2015	2016
Net loss	$ (28,154)	$ (20,589)
Weighted-average shares used to compute basic and diluted net loss per share	55,292,845	59,659,307
Net loss per share, basic and diluted	$ (0.51)	$ (0.35)

Weighted average unvested shares for the years ended December 31, 2015 and 2016 were excluded from the weighted average shares used to compute basic and diluted net loss per share.

The following common stock equivalents were excluded from the computation of diluted net loss per share for the periods presented because including them would have been antidilutive:

	December 31,	
	2015	2016
Stock options	36,635,349	44,322,182
Unvested shares	1,635,430	854,104
Convertible preferred stock	167,242,376	203,954,077
Convertible preferred stock warrants	2,643,144	2,817,988
Common stock warrants	2,212,918	2,212,918

SI-BONE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

15. Subsequent Events

In February 2017, the Board of Directors approved an amendment of the Term Loan (Note 6) to extend the interest only period by six months to October 1, 2017. In addition, the amendment extended the draw period through January 2018 for the fourth tranche of $5.0 million under the Term Loan upon achieving certain revenue milestones.

Between February and March 2017, the Company completed a second round of the Series 7 convertible preferred stock issuance in a $5.4 million financing and issued a total of 9,735,767 shares at $0.56 per share. Additionally, the initial conversion price per share for the Series 6 convertible preferred stock was amended to $0.8643 per share. All of the other terms and conditions of the Series 6 convertible preferred stock remain the same.

In March 2017, the Board of Directors approved increases to the stock option plan totaling 7,800,000 shares available for grant, an increase to the total authorized common stock to 10,000,000 and an increase to the total authorized convertible preferred stock to 9,931,685.

In March 2017, the Company granted options to purchase a total of 12,044,446 of company common stock at an exercise price of $0.33 per share.

In March 2017, the Company forgave $231,000 of principal and interest due on a promissory note from its Chief Executive Officer. In addition, the Board of Directors approved the forgiveness of the remaining principal balance of $218,000 upon the earlier of an IPO, change of control, or January 1, 2018.

Table of Contents

Shares

Common Stock

Prospectus

Morgan Stanley **BofA Merrill Lynch**

Canaccord Genuity **JMP Securities**

, 2017

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the various expenses expected to be incurred and payable by us in connection with the sale and distribution of our common stock, other than underwriting discounts and commissions. All amounts are estimates except for the Securities and Exchange Commission (SEC) registration fee, the Financial Industry Regulatory Authority (FINRA) filing fee and the Nasdaq Global Market listing fee.

	Payable by us
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq Global Market listing fee	*
Blue sky fees and expenses	*
Accounting fees and expenses	*
Legal fees and expenses	*
Printing and engraving expenses	*
Registrar and transfer agent fees and expenses	*
Miscellaneous fees and expenses	*
Total	$ *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the Delaware General Corporation Law are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act.

As permitted by the Delaware General Corporation Law, our amended and restated certificate of incorporation and amended and restated bylaws contain provisions relating to the limitation of liability and indemnification of directors and officers. The amended and restated certificate of incorporation provides that our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, except for liability:

- for any breach of the director's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- in respect of unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- for any transaction from which the director derives any improper personal benefit.

Our amended and restated certificate of incorporation also provides that if Delaware law is amended after the approval by our stockholders of the certificate of incorporation to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law.

Our amended and restated bylaws provide that we will indemnify our directors and officers to the fullest extent permitted by Delaware law, as it now exists or may in the future be amended, against all expenses and

liabilities reasonably incurred in connection with their service for or on our behalf. Our amended and restated bylaws provide that we shall advance the expenses incurred by a director or officer in advance of the final disposition of an action or proceeding, and permit us to secure insurance on behalf of any director, officer, employee, or other enterprise agent for any liability arising out of his or her action in that capacity, whether or not Delaware law would otherwise permit indemnification.

We intend to enter into indemnification agreements with each of our directors and executive officers and certain other key employees, a form of which is attached as Exhibit 10.1. The form of agreement provides that we will indemnify each of our directors, executive officers and such other key employees against any and all expenses incurred by that director, executive officer, or other key employee because of his or her status as one of our directors, executive officers or other key employees, to the fullest extent permitted by Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws. In addition, the form agreement provides that, to the fullest extent permitted by Delaware law, we will advance all expenses incurred by our directors, executive officers and other key employees in connection with a legal proceeding.

Reference is made to the underwriting agreement contained in Exhibit 1.1 to this registration statement, indemnifying our directors and officers against limited liabilities. In addition, Section 1.9 of our amended and restated investors' rights agreement, or IRA, contained in Exhibit 4.2 to this registration statement provides for indemnification of certain of our stockholders against liabilities described in our IRA.

We maintain insurance policies that indemnify our directors and officers against various liabilities under the Securities Act and the Exchange Act of 1934, as amended, that might be incurred by any director or officer in his or her capacity as such.

Item 15. Recent Sales of Unregistered Securities

The following sets forth information regarding all unregistered securities sold from January 1, 2012 through March 2017:

(1) On July 25, 2012, we issued and sold an aggregate of $2,000,000 in principal of convertible promissory notes and warrants to two accredited investors, with such convertible promissory notes accruing interest at a rate of 8% per annum. On April 21, 2014, all outstanding principal and unpaid accrued interest in connection with such convertible promissory notes were converted into shares of our Series 5 preferred stock at $0.51 per share.

(2) From April 15, 2014 to June 19, 2015, we issued and sold an aggregate of 59,747,277 shares of our Series 6 preferred stock at $0.92 per share to 31 accredited investors for an aggregate consideration of approximately $54,674,733.

(3) On July 25, 2012, we issued warrants to purchase an aggregate of 988,522 shares of Series 5 preferred stock at an exercise price of $0.51 per share in connection with a bridge loan financing entered into with our investors, Montreux Equity Partners and Skyline Ventures. As of December 31, 2016, the warrants were exercisable for an aggregate of 988,522 shares of Series 5 preferred stock at an exercise price of $0.51 per share until the earliest to occur of (i) their expiration on July 25, 2019, (ii) an initial public offering, or (iii) a corporate transaction.

(4) In connection with the Loan and Security Agreement we entered into with Silicon Valley Bank, or SVB, on July 22, 2013, we issued to each of SVB and Westriver Mezzanine Loans, LLC, or Westriver, a warrant to purchase, in the aggregate, 1,818,182 shares of our common stock at an exercise price of $0.22 per share. As of December 31, 2016, the warrants were exercisable for an aggregate of 1,818,182 shares of common stock at an exercise price of $0.22 per share until their expiration on July 22, 2023. In addition, we issued to SVB a warrant to purchase 395,804 shares of our Series 5 preferred stock at an exercise price of $0.51 per share. As of December 31, 2016, the warrant was exercisable for an aggregate of 395,804 shares of Series 5 preferred stock at an exercise price of $0.51 per share until their expiration on July 22, 2023.

(5) In connection with the Amended and Restated Loan and Security Agreement we entered into with SVB, on November 26, 2014, we issued to each of SVB and Westriver, a warrant to purchase, in the aggregate, 394,736 shares of our common stock at an exercise price of $0.19 per share. As of December 31, 2016, the warrants were exercisable for an aggregate of 394,736 shares of common stock at an exercise price of $0.19 per share until their expiration on November 25, 2024. In addition, we issued to SVB, a warrant to purchase 113,587 shares of our Series 6 preferred stock at an exercise price of $0.92 per share. As of December 31, 2016, the warrant was exercisable for an aggregate of 113,587 shares of Series 6 preferred stock at an exercise price of $0.92 per share until their expiration on November 25, 2024.

(6) From June 2016 to March 2017, we issued and sold an aggregate of 46,447,468 shares of Series 7 preferred stock at $0.56 per share to 21 accredited investors for an aggregate consideration of approximately $25,889,819.

(7) On March 1, 2017, we issued a warrant to purchase 25,000 shares of our common stock with an exercise price of $0.33 per share to a former consultant.

(8) Under our 2008 Stock Plan, we granted options to purchase an aggregate of 119,711,641 shares of our common stock with per share exercise prices ranging from $0.01 to $0.54. Of these, options to purchase (i) 39,827,687 shares have been exercised, (ii) 27,269,585 shares have been cancelled without being exercised and (iii) 52,614,369 shares remain outstanding.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. The Registrant believes that each transaction was exempt from the registration requirements of the Securities Act in reliance on the following exemptions:

(1) The transactions set forth in paragraphs (1) through (7) were deemed to be exempt from registration under the Securities Act in reliance upon Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder as transactions by an issuer not involving any public offering. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients made representations to us that such recipient was an “accredited investor,” as defined under Rule 501 of the Securities Act, and that such recipient had adequate information about us or had adequate access, through their relationships with us, to information about us.

(2) The transactions set forth in paragraph (8) were deemed to be exempt from registration under the Securities Act in reliance upon Rule 701 promulgated under Section 3(b) of the Securities Act pursuant to benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate information about us or had adequate access, through their relationships with us, to information about us.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits. We have filed the exhibits listed on the accompanying Exhibit Index, which is incorporated herein by reference.

(b) Financial Statement Schedules. All schedules have been omitted because the information required to be presented in them is not applicable or is shown in the financial statements or related notes, which is incorporated herein by reference.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreements 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 foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission 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 that:

(1) For purposes of determining any liability under the Securities Act, 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 shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, 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, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on the day of , 2017.

SI-BONE, INC.

By: _____

Jeffrey W. Dunn
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS that each person whose signature appears below constitutes and appoints Jeffrey W. Dunn, Laura A. Francis and Michael A. Pisetsky, and each of them, his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments, including post- effective amendments, to this registration statement, and any registration statement relating to the offering covered by this registration statement and filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorney-in-fact and agents or their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Name	Title	Date
Jeffrey W. Dunn	President, Chief Executive Officer (*Principal Executive Officer*), and Chairman	, 2017
Laura A. Francis	Chief Financial Officer (*Principal Financial and Accounting Officer*)	, 2017
David P. Bonita	Director	, 2017
Timothy E. Davis, Jr.	Director	, 2017
John G. Freund	Director	, 2017
Gregory K. Hinckley	Director	, 2017

Name	Title	Date
Karen A. Licitra	Director	, 2017
Mark A. Reiley	Director	, 2017
Timothy B. Petersen	Director	, 2017
Keith C. Valentine	Director	, 2017

Table of Contents

EXHIBIT INDEX

Exhibit No.	Description
1.1*	Form of Underwriting Agreement.
3.1	Restated Certificate of Incorporation of Registrant, as amended.
3.2*	Form of Amended and Restated Certificate of Incorporation of Registrant, to be effective upon closing of this offering.
3.3	Second Amended and Restated Bylaws of Registrant.
3.4*	Form of Amended and Restated Bylaws of Registrant, to be effective upon closing of this offering.
4.1*	Form of Registrant's Common Stock Certificate.
5.1*	Opinion of Cooley LLP.
10.1*	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.
10.2*	2008 Stock Plan and forms of agreements thereunder.
10.3*	2017 Equity Incentive Plan and form of agreements thereunder.
10.4*	2017 Employee Stock Purchase Plan and form of agreements thereunder.
10.5*	Office Lease Agreement, dated August 9, 2012, by and among the Registrant and the other party thereto, as amended on December 19, 2013, February 27, 2014, February 27, 2015 and June 20, 2016.
10.6*	Loan and Security Agreement, dated October 20, 2015, between the Registrant, Oxford Finance LLC, and Silicon Valley Bank, as amended on August 1, 2016 and February 21, 2017.
10.7*	Quality and Manufacturing Agreement, dated April 18, 2016, between the Registrant and Orchid MPS Holdings, LLC and Addendum No. 1 dated March 1, 2017.
10.8*	Manufacturing, Quality and Supply Agreement, dated January 31, 2017, between the Registrant and rms Company.
10.9*	Offer Letter Agreement, dated December 15, 2009, between the Registrant and Jeffrey W. Dunn.
10.10*	Offer Letter Agreement, dated April 27, 2015, between the Registrant and Laura Francis.
10.11*	Severance and Change in Control Agreement dated March 15, 2016, between the Registrant and Laura Francis.
10.12*	Amended and Restated Letter Agreement, dated March 1, 2017, between the Registrant and Laura Francis.
10.13*	Offer Letter Agreement, dated February 7, 2012, between the Registrant and W. Carlton Reckling.
10.14*	Severance and Change in Control Agreement, dated March 15, 2016, between the Registrant and W. Carlton Reckling.
10.15*	Letter Agreement, dated January 18, 2017, between the Registrant and W. Carlton Reckling.
10.16*	Offer Letter Agreement, dated December 16, 2010, between the Registrant and Scott A. Yerby.
10.17*	Severance and Change in Control Agreement dated March 15, 2016, between the Registrant and Scott A. Yerby.
10.18*	Offer Letter Agreement, dated June 19, 2016, between the Registrant and Anthony J. Recupero.
10.19*	Amended and Restated Investors' Rights Agreement, dated June 2, 2016, by and among the Registrant and the parties thereto.

Table of Contents

Exhibit No.	Description
10.20*	Form of Warrant to Purchase Common Stock dated July 19, 2013.
10.21*	Form of Warrant to Purchase Stock (Series 5 Preferred).
10.22*	Form of Warrant to Purchase Common Stock dated November 26, 2014.
10.23*	Form of Warrant to Purchase Stock (Series 6 Preferred).
10.24*	Form of Warrant to Purchase Stock (Series 7 Preferred).
21.1*	List of Subsidiaries of Registrant.
23.1*	Consent of Cooley LLP (contained in Exhibit 5.1).
24.1*	Power of Attorney (contained in the signature page to this registration statement).

* To be filed by amendment.

RESTATED CERTIFICATE OF INCORPORATION
OF
SI-BONE, INC.

**(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)**

SI-BONE, INC., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "General Corporation Law"),

DOES HEREBY CERTIFY:

FIRST: That the name of this corporation is **SI-BONE, INC.** and that this corporation was originally incorporated pursuant to the General Corporation Law on March 18, 2008 under the name SI-BONE Inc.

SECOND: That the Board of Directors duly adopted resolutions proposing to amend and restate the Restated Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Restated Certificate of Incorporation of this corporation be amended and restated in its entirety as follows:

ARTICLE I

The name of this corporation is SI-BONE, Inc.

ARTICLE II

The address of the registered office of this corporation in the State of Delaware is 3500 South Dupont Highway, in the City of Dover, County of Kent, 19901. The name of its registered agent at such address is Incorporating Services, Ltd.

ARTICLE III

The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

ARTICLE IV

A. Authorization of Stock. This corporation is authorized to issue two classes of stock to be designated, respectively, common stock and preferred stock. The total number of shares that this corporation is authorized to issue is Five Hundred Forty Five Million Nine Hundred Fifty Three Thousand Eight Hundred Thirty Five (545,953,835). The total number of shares of common stock authorized to be issued is Three Hundred Thirty Eight Million (338,000,000), par value $0.0001 per share (the "Common Stock"), of which One Hundred Eight Million (108,000,000) shares are designated as "Series 1 Common Stock" and Two Hundred Thirty Million (230,000,000) shares are designated as "Series 2 Common Stock". The total number of shares of preferred stock authorized to be issued is Two Hundred Seven Million Nine Hundred Fifty Three Thousand Eight Hundred Thirty Five (207,953,835), par value $0.0001 per share (the "Preferred Stock"), of which Four Million Four Hundred Eleven Thousand Seven Hundred Thirty One (4,411,731) shares are designated as "Series 1 Preferred Stock," Twelve Million Seven Hundred Seventy Three Thousand One Hundred Seven (12,773,107) shares are designated as "Series 2 Preferred Stock", Eight Million Nine Hundred Eighty One Thousand Two Hundred Fifty (8,981,250) shares are designated as "Series 3 Preferred Stock", Forty Five Million One Hundred Sixty Two Thousand Eight Hundred Fifty Three (45,162,853) shares are designated as "Series 4 Preferred Stock", Thirty Seven Million Five Hundred Fifty Thousand Four Hundred Eighty Four (37,550,484) shares are designated as "Series 5 Preferred Stock", Sixty One Million Six Thousand Ninety Five (61,006,095) are designated as "Series 6 Preferred Stock" and Thirty Eight Million Sixty Eight Thousand Three Hundred Fifteen (38,068,315) are designated as "Series 7 Preferred Stock".

B. Rights, Preferences and Restrictions of Preferred Stock. The rights, preferences, privileges and restrictions granted to and imposed on the Preferred Stock are as set forth below in this Article IV(B).

1. Dividend Provisions.

(a) The holders of shares of Preferred Stock shall be entitled to receive dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock of this corporation) on the Common Stock of this corporation, at the applicable Dividend Rate (as defined below), payable when, as and if declared by the Board of Directors. Such dividends shall not be cumulative. The holders of the outstanding Preferred Stock can waive any dividend preference that such holders shall be entitled to receive under this Section 1 upon the affirmative vote or written consent of the holders of a majority of the shares of Preferred Stock then outstanding (voting together as a single class and not as separate series, and on an as-converted basis). For purposes of this subsection 1(a), "Dividend Rate" shall mean $0.002784 per annum for each share of Series 1 Preferred Stock, $0.00952 per annum for each share of Series 2 Preferred Stock, $0.0256 per annum for each share of Series 3 Preferred Stock, $0.028 per annum for each share of Series 4 Preferred Stock, $0.04043 per annum for each share of Series 5 Preferred Stock, $0.073208 per annum for each share of Series 6 Preferred Stock and $0.044592 per annum for each share of Series 7 Preferred Stock (each as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like).

(b) After payment of such dividends, any additional dividends or distributions shall be distributed among all holders of Common Stock and Preferred Stock in proportion to the number of shares of Common Stock that would be held by each such holder if all shares of Preferred Stock were converted to Common Stock at the then effective conversion rate.

2. Liquidation Preference.

(a) In the event of any Liquidation Event (as defined below), either voluntary or involuntary, the holders of each series of Preferred Stock shall be entitled to receive, prior and in preference to any distribution of the proceeds of such Liquidation Event (the "Proceeds") to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the sum of the applicable Original Issue Price (as defined below) for such series of Preferred Stock, plus declared but unpaid dividends on such share. If, upon the occurrence of any Liquidation Event, the Proceeds thus distributed among the holders of the Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amounts, then the entire Proceeds legally available for distribution shall be distributed ratably among the holders of the Preferred Stock in proportion to the full preferential amount that each such holder is otherwise entitled to receive under this subsection (a), on a pari passu, equal priority basis. For purposes of this Restated Certificate of Incorporation, "Original Issue Price" shall mean $0.0348 per share for each share of the Series 1 Preferred Stock, $0.119 per share for each share of the Series 2 Preferred Stock, $0.32 per share for each share of the Series 3 Preferred Stock, $0.35 per share for each share of the Series 4 Preferred Stock, $0.5053 per share for each share of the Series 5 Preferred Stock, $0.9151 per share for each share of the Series 6 Preferred Stock and $0.5574 per share for each share of the Series 7 Preferred Stock (in each case, as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like with respect to such series of Preferred Stock).

(b) Upon the completion of the distribution required by subsection (a) of this Section 2, the remaining Proceeds available for distribution to stockholders shall be distributed among the holders of Series 7 Preferred Stock, Series 6 Preferred Stock, Series 5 Preferred Stock, Series 4 Preferred Stock and Common Stock pro rata based on the number of shares of Common Stock held by each (assuming full conversion of all such Preferred Stock) until, with respect to the Series 6 Preferred Stock, Series 5 Preferred Stock and Series 4 Preferred Stock, such holders shall have received the Participation Cap (as defined below); thereafter, if Proceeds remain, the holders of the Series 7 Preferred Stock and Common Stock of this corporation shall receive all of the remaining Proceeds pro rata based on the number of shares of Common Stock held by each (assuming full conversion of all such Series 7 Preferred Stock). For purposes of this Restated Certificate of Incorporation, "Participation Cap" shall mean $1.8302 for the Series 6 Preferred Stock, shall mean $1.0106 for the Series 5 Preferred Stock and shall mean $0.70 for the Series 4 Preferred Stock (each as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like with respect to such series of Preferred Stock), which includes amounts paid pursuant to subsection (a) of this Section 2.

(c) Notwithstanding the above, for purposes of determining the amount each holder of shares of Preferred Stock is entitled to receive with respect to a Liquidation Event, each such holder of shares of a series of Preferred Stock shall be deemed to have converted (regardless of whether such holder actually converted) such holder's shares of such series into shares of Common Stock immediately prior to the Liquidation Event if, as a result of an actual conversion, such holder would receive, in the aggregate, an amount greater than the amount that would be distributed to such holder if such holder did not convert such series of Preferred Stock into shares of Common Stock. If any such holder shall be deemed to have converted shares of Preferred Stock into Common Stock pursuant to this paragraph, then such holder shall not be entitled to receive any distribution that would otherwise be made to holders of Preferred Stock that have not converted (or have not been deemed to have converted) into shares of Common Stock.

(d) In the event of a Liquidation Event, if any portion of the consideration payable to the stockholders of the Corporation is placed into escrow and/or is payable to the stockholders of this corporation subject to contingencies (such consideration collectively referred to herein as "Contingent Consideration"), the definitive agreement with respect to Liquidation Event shall provide that (i) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the "Initial Consideration") shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2(a) and 2(b) as if the Initial Consideration were the only consideration payable in connection with such Liquidation Event, after taking into account the application of Section 2(c), and (ii) any Contingent Consideration which becomes payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2(a) and 2(b) after taking into account (x) the previous payment of (1) the Initial Consideration and (2) any other Contingent Consideration as part of the same transaction and (y) the application of Section 2(c). For the avoidance of doubt, holders of the Preferred Stock shall not be deemed to have converted such Preferred Stock into Common Stock pursuant to Section 2(c) until such time such holders of Preferred Stock actually receive as a result of such deemed conversion an amount greater than the amount to which such holders of Preferred Stock would otherwise be entitled pursuant to Sections 2(a) and 2(b) above had the Preferred Stock had not been converted to Common Stock; provided that for the purposes of the application of Section 2(c), the value of the Initial Consideration and any Contingent Consideration shall be determined at the time such Initial Consideration or Contingent Consideration, as applicable, are to be legally distributed to this corporation's stockholders as a result of such Liquidation Event.

(e) (i) For purposes of this Section 2, a "Liquidation Event" shall include (A) the closing of the sale, lease, transfer, exclusive license or other disposition of all or substantially all of this corporation's assets, in a single transaction or series of related transactions, by this corporation or any subsidiary or subsidiaries of this corporation, of all or substantially all the assets of this corporation and its subsidiaries taken as a whole (or, if substantially all of the assets of this corporation and its subsidiaries taken as a whole are held by one or more subsidiaries, the sale or disposition (whether by consolidation, merger, conversion or otherwise) of such subsidiaries of this corporation or all or substantially all of the assets of such subsidiaries), except where such sale, lease, transfer, exclusive license or other disposition is made to this corporation or one or more wholly owned subsidiaries of this corporation, (B) the consummation of a merger, consolidation or acquisition in which (x) this corporation is a

constituent party or (y) a subsidiary of this corporation is a constituent party and this corporation issues shares of its capital stock pursuant to such merger, consolidation or acquisition (except a merger, consolidation or acquisition involving this corporation or a subsidiary in which the capital stock of this corporation outstanding immediately prior to such merger, consolidation or acquisition continue to represent or are converted or exchanged for shares of capital stock which represent, immediately following such merger, consolidation or acquisition at least a majority of the voting power of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger, consolidation or acquisition, the parent corporation of such surviving or resulting corporation); (C) any transaction or series of related transactions to which this corporation is a party in which in excess of fifty percent (50%) of this corporation's voting power is transferred; provided that a Liquidation Event shall not include any transaction or series of related transactions principally for bona fide equity financing purposes in which cash is received by this corporation or any successor or indebtedness of this corporation is cancelled or converted or a combination thereof occurs, or (D) a liquidation, dissolution or winding up of this corporation; provided, however, that a transaction shall not constitute a Liquidation Event if its sole purpose is to change the state of this corporation's incorporation or to create a holding company that will be owned in substantially the same proportions by the persons who held this corporation's securities immediately prior to such transaction. The treatment of any particular transaction or series of related transactions as a Liquidation Event may be waived by the vote or written consent of the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of all then outstanding Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(ii) In any Liquidation Event, if Proceeds received by this corporation or its stockholders is other than cash, its value will be deemed its fair market value. Any securities shall be valued as follows:

(A) Securities not subject to investment letter or other similar restrictions on free marketability which are not covered by clause (B) below:

(1) If traded on a securities exchange, the value shall be deemed to be the average of the closing prices of the securities on such exchange or system over the twenty (20) trading-day period ending three (3) trading days prior to the closing of the Liquidation Event;

(2) If actively 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 twenty (20) trading-day period ending three (3) trading days prior to the closing of the Liquidation Event; and

(3) If there is no active public market, the value shall be the fair market value thereof, as mutually determined by this corporation and the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of all then outstanding shares of Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(B) The method of valuation of securities subject to investment letter or other restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to take an appropriate discount from the market value determined as above in (A) (1), (2) or (3) to reflect the approximate fair market value thereof, as mutually determined by this corporation and the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of all then outstanding shares of such Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(C) The foregoing methods for valuing non-cash consideration to be distributed in connection with a Liquidation Event shall, upon approval by the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of all then outstanding shares of Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis), be superseded by any determination of such value set forth in the definitive agreements governing such Liquidation Event.

(iii) In the event the requirements of this Section 2 are not complied with, this corporation shall forthwith either:

(A) cause the closing of such Liquidation Event to be postponed until such time as the requirements of this Section 2 have been complied with; or

(B) cancel such transaction, in which event the rights, preferences and privileges of the holders of the Preferred Stock shall revert to and be the same as such rights, preferences and privileges existing immediately prior to the date of the first notice referred to in subsection 2(d)(iv) hereof.

(iv) This corporation shall give each holder of record of Preferred Stock written notice of such impending Liquidation Event not later than twenty (20) days prior to the stockholders' meeting called to approve such transaction, or twenty (20) days prior to the closing of such transaction, whichever is earlier, and shall also notify such holders in writing of the final approval of such transaction. The first of such notices shall describe the material terms and conditions of the impending transaction and the provisions of this Section 2, and this corporation shall thereafter give such holders prompt notice of any material changes. The transaction shall in no event take place sooner than twenty (20) days after this corporation has given the first notice provided for herein or sooner than ten (10) days after this corporation has given notice of any material changes provided for herein; provided, however, that subject to compliance with the General Corporation Law such periods may be shortened or waived upon the written consent of the holders of Preferred Stock that represent at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of all then outstanding shares of such Preferred Stock (voting together as a single class, and on an as-converted basis).

3. Redemption. The Preferred Stock is not redeemable at the option of the holder.

4. Conversion. The holders of the Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

(a) Right to Convert. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share, at the office of this corporation or any transfer agent for such stock, into such number of fully paid and nonassessable shares of Series 2 Common Stock as is determined by dividing the applicable Original Issue Price for such series by the applicable Conversion Price for such series (the conversion rate for a series of Preferred Stock into Series 2 Common Stock is referred to herein as the "Conversion Rate" for such series), determined as hereafter provided, in effect on the date the certificate is surrendered for conversion. The initial Conversion Price per share for the Series 6 Preferred Stock shall be $0.8730, and the Initial Conversion Price per share for the Series 1 Preferred Stock, Series 2 Preferred Stock, Series 3 Preferred Stock, Series 4 Preferred Stock, Series 5 Preferred Stock and Series 7 Preferred Stock shall be the Original Issue Price applicable to such series; provided, however, that the Conversion Price for the Preferred Stock shall be subject to adjustment as set forth in subsection 4(d).

(b) Automatic Conversion. Each share of Preferred Stock shall automatically be converted into shares of Series 2 Common Stock at the Conversion Rate at the time in effect for such series of Preferred Stock immediately upon this corporation's sale of its Common Stock in a firm commitment underwritten public offering pursuant to a registration statement on Form S-1 or Form SB-2 under the Securities Act of 1933, as amended, resulting in aggregate gross proceeds to this corporation of not less than $50,000,000 and a per share public offering of not be less than $1.6722 (as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like) (a "Qualified Public Offering"). Each share of Series 1 Preferred Stock, Series 2 Preferred Stock, Series 3 Preferred Stock, Series 4 Preferred Stock, Series 5 Preferred Stock, Series 6 Preferred Stock and Series 7 Preferred Stock shall automatically be converted into shares of Series 2 Common Stock at the Conversion Rate at the time in effect for such shares of Preferred Stock immediately upon the date specified by written consent or agreement of the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of all then outstanding shares of Series 1 Preferred Stock, Series 2 Preferred Stock, Series 3 Preferred Stock, Series 4 Preferred Stock, Series 5 Preferred Stock, Series 6 Preferred Stock and Series 7 Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

(c) Mechanics of Conversion. Before any holder of Preferred Stock shall be entitled to voluntarily convert the same into shares of Series 2 Common Stock, he or she shall surrender the certificate or certificates therefor, duly endorsed, at the office of this corporation or of any transfer agent for the Preferred Stock, and shall give written notice to this corporation at its principal corporate office, of the election to convert the same and shall state therein the name or names in which the certificate or certificates for shares of Series 2 Common Stock are to be issued. This corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Preferred Stock, or to the nominee or nominees of such holder, a certificate or certificates for the number of shares of Series 2 Common Stock to which such

holder shall be entitled as aforesaid. 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 Preferred Stock to be converted, and the person or persons entitled to receive the shares of Series 2 Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or holders of such shares of Series 2 Common Stock as of such date. If the conversion is in connection with an underwritten offering of securities registered pursuant to the Securities Act of 1933, as amended, the conversion may, at the option of any holder tendering Preferred Stock for conversion, be conditioned upon the closing with the underwriters of the sale of securities pursuant to such offering, in which event the persons entitled to receive the Series 2 Common Stock upon conversion of the Preferred Stock shall not be deemed to have converted such Preferred Stock until immediately prior to the closing of such sale of securities. If the conversion is in connection with the last sentence of the automatic conversion provision of subsection 4(b) above, such conversion shall be deemed to have been made on the conversion date described in the stockholder consent approving such conversion, and the persons entitled to receive shares of Series 2 Common Stock issuable upon such conversion shall be treated for all purposes as the record holders of such shares of Series 2 Common Stock as of such date.

(d) Conversion Price Adjustments of Preferred Stock for Certain Dilutive Issuances, Splits and Combinations. The Conversion Price of the Preferred Stock shall be subject to adjustment from time to time as follows:

(i) (A) If this corporation shall issue, on or after the date upon which this Restated Certificate of Incorporation is accepted for filing by the Secretary of State of the State of Delaware (the "Filing Date"), any Additional Stock (as defined below) without consideration or for a consideration per share less than the Conversion Price applicable to a series of Preferred Stock in effect immediately prior to the issuance of such Additional Stock, the Conversion Price for such series in effect immediately prior to each such issuance shall forthwith (except as otherwise provided in this clause (i)) be adjusted to a price (calculated to the nearest one-thousandth of a cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock Outstanding (as defined below) immediately prior to such issuance plus the number of shares of Common Stock that the aggregate consideration received by this corporation for such issuance would purchase at such Conversion Price; and the denominator of which shall be the number of shares of Common Stock Outstanding (as defined below) immediately prior to such issuance plus the number of shares of such Additional Stock. For purposes of this Section 4(d)(i)(A), the term "Common Stock Outstanding" shall mean and include the following: (1) outstanding Common Stock, (2) Common Stock issuable upon conversion of outstanding Preferred Stock, (3) Common Stock issuable upon exercise of outstanding stock options and other rights to purchase shares of capital stock and (4) Common Stock issuable upon exercise (and, in the case of warrants to purchase Preferred Stock, conversion) of outstanding warrants. Shares described in (1) through (4) above shall be included whether vested or unvested, whether contingent or non-contingent and whether exercisable or not yet exercisable.

(B) No adjustment of the Conversion Price for the Preferred Stock shall be made in an amount less than one-tenth of one cent per share. Except to the limited extent provided for in subsections (E)(3) and (E)(4), no adjustment of such Conversion Price pursuant to this subsection 4(d)(i) shall have the effect of increasing the Conversion Price above the Conversion Price in effect immediately prior to such adjustment.

(C) In the case of the issuance of Additional Stock for cash, the consideration shall be deemed to be the amount of cash paid therefor before deducting any reasonable discounts, commissions or other expenses allowed, paid or incurred by this corporation for any underwriting or otherwise in connection with the issuance and sale thereof.

(D) In the case of the issuance of the Additional Stock for a consideration in whole or in part other than cash, the consideration other than cash shall be deemed to be the fair market value thereof as determined by the Board of Directors irrespective of any accounting treatment.

(E) In the case of the issuance of options to purchase or rights to subscribe for Common Stock, securities by their terms convertible into or exchangeable for Common Stock or options to purchase or rights to subscribe for such convertible or exchangeable securities, the following provisions shall apply for purposes of determining the number of shares of Additional Stock issued and the consideration paid therefor:

(1) The aggregate maximum number of shares of Common Stock deliverable upon exercise (assuming the satisfaction of any conditions to exercisability, including without limitation, the passage of time, but without taking into account potential antidilution adjustments) of such options to purchase or rights to subscribe for Common Stock shall be deemed to have been issued at the time such options or rights were issued and for a consideration equal to the consideration (determined in the manner provided in subsections 4(d)(i)(C) and (d)(i)(D)), if any, received by this corporation upon the issuance of such options or rights plus the minimum exercise price provided in such options or rights (without taking into account potential antidilution adjustments) for the Common Stock covered thereby.

(2) The aggregate maximum number of shares of Common Stock deliverable upon conversion of, or in exchange (assuming the satisfaction of any conditions to convertibility or exchangeability, including, without limitation, the passage of time, but without taking into account potential antidilution adjustments) for, any such convertible or exchangeable securities or upon the exercise of options to purchase or rights to subscribe for such convertible or exchangeable securities and subsequent conversion or exchange thereof shall be deemed to have been issued at the time such securities were issued or such options or rights were issued and for a consideration equal to the consideration, if any, received by this corporation for any such securities and related options or rights (excluding any cash received on account of accrued interest or accrued dividends), plus the minimum additional consideration, if any, to be received by this corporation (without taking into account potential antidilution adjustments) upon the conversion or exchange of such securities or the exercise of any related options or rights (the consideration in each case to be determined in the manner provided in subsections 4(d)(i)(C) and (d)(i)(D)).

(3) In the event of any change in the number of shares of Common Stock deliverable or in the consideration payable to this corporation upon exercise of such options or rights or upon conversion of or in exchange for such convertible or exchangeable securities, the Conversion Price of the Preferred Stock, to the extent in any way

affected by or computed using such options, rights or securities, shall be recomputed to reflect such change, but no further adjustment shall be made for the actual issuance of Common Stock or any payment of such consideration upon the exercise of any such options or rights or the conversion or exchange of such securities.

(4) Upon the expiration of any such options or rights, the termination of any such rights to convert or exchange or the expiration of any options or rights related to such convertible or exchangeable securities, the Conversion Price of the Preferred Stock, to the extent in any way affected by or computed using such options, rights or securities or options or rights related to such securities, shall be recomputed to reflect the issuance of only the number of shares of Common Stock (and convertible or exchangeable securities that remain in effect) actually issued upon the exercise of such options or rights, upon the conversion or exchange of such securities or upon the exercise of the options or rights related to such securities.

(5) The number of shares of Additional Stock deemed issued and the consideration deemed paid therefor pursuant to subsections 4(d)(i)(E)(1) and (2) shall be appropriately adjusted to reflect any change, termination or expiration of the type described in either subsection 4(d)(i)(E)(3) or (4).

(ii) "Additional Stock" shall mean any shares of Common Stock issued (or deemed to have been issued pursuant to subsection 4(d)(i)(E)) by this corporation on or after the Filing Date other than:

(A) Common Stock issued pursuant to a transaction described in subsection 4(d)(iii) hereof;

(B) Shares of Common Stock issued to employees, officers, directors, consultants and other service providers for the primary purpose of soliciting or retaining their services pursuant to plans or agreements approved by this corporation's Board of Directors (which approval shall include the affirmative vote of one of the Series 4 Director, the Series 5 Director, the Series 6 Director or Series 7 Director, each as defined below (collectively, the "Preferred Directors"));

(C) Common Stock issued pursuant to an underwritten public offering;

(D) Common Stock issued pursuant to the conversion or exercise of convertible or exercisable securities outstanding on the Filing Date;

(E) Common Stock issued in connection with a bona fide business acquisition of or by this corporation, whether by merger, consolidation, sale of assets, sale or exchange of stock or otherwise, approved by the Board of Directors (which approval shall include the vote of a Preferred Director) and entered into primarily for a purpose other than for financing purposes;

(F) Common Stock issued or deemed issued pursuant to subsection 4(d)(i)(E) as a result of a decrease in the Conversion Price of any series of Preferred Stock resulting from the operation of Section 4(d);

(G) Common Stock issued upon conversion of (1) the Preferred Stock outstanding on the Filing Date and (2) the Preferred Stock issued pursuant to that certain Series 7 Preferred Stock Purchase Agreement, dated on or about the Filing Date, by and among this corporation and the Investors set forth on Schedule A thereto;

(H) Shares of Common Stock issued pursuant to any equipment leasing arrangement or debt financing arrangement, which arrangement is approved by the Board of Directors (which approval shall include the affirmative vote of a Preferred Director) and is primarily for non-equity financing purposes; or

(I) Common Stock issued to persons or entities with which this corporation has business relationships, provided such issuances are approved by the Board of Directors (which approval shall include the affirmative vote of a Preferred Director) and are primarily for non-equity financing purposes.

(iii) In the event this corporation should at any time or from time to time after the Filing Date fix a record date for the effectuation of a split or subdivision of the outstanding shares of Common Stock or the determination of holders of Common Stock entitled to receive a dividend or other distribution payable in additional shares of Common Stock or other securities or rights convertible into, or entitling the holder thereof to receive directly or indirectly, additional shares of Common Stock (hereinafter referred to as "Common Stock Equivalents") without payment of any consideration by such holder for the additional shares of Common Stock or the Common Stock Equivalents (including the additional shares of Common Stock issuable upon conversion or exercise thereof), then, as of such record date (or the date of such dividend distribution, split or subdivision if no record date is fixed), the Conversion Price of the Preferred Stock shall be appropriately decreased so that the number of shares of Series 2 Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase of the aggregate of shares of Common Stock outstanding and those issuable with respect to such Common Stock Equivalents with the number of shares issuable with respect to Common Stock Equivalents determined from time to time in the manner provided for deemed issuances in subsection 4(d)(i)(E).

(iv) If the number of shares of Common Stock outstanding at any time after the Filing Date is decreased by a combination of the outstanding shares of Common Stock, then, following the record date of such combination, the Conversion Price for the Preferred Stock shall be appropriately increased so that the number of shares of Series 2 Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in outstanding shares.

(e) Other Distributions. In the event this corporation shall declare a distribution payable in securities of other persons, evidences of indebtedness issued by this corporation or other persons, assets (excluding cash dividends) or options or rights not referred to in subsection 4(d), then, in each such case for the purpose of this subsection 4(e), the holders of the Preferred Stock shall be entitled to a proportionate share of any such distribution as though they were the holders of the number of shares of Common Stock of this corporation

into which their shares of Preferred Stock are convertible as of the record date fixed for the determination of the holders of Common Stock of this corporation entitled to receive such distribution.

(f) Recapitalizations. If at any time or from time to time there shall be a recapitalization of the Common Stock (other than a subdivision, combination or merger or sale of assets transaction provided for elsewhere in this Section 4 or in Section 2) provision shall be made so that the holders of the Preferred Stock shall thereafter be entitled to receive upon conversion of the Preferred Stock the number of shares of stock or other securities or property of this corporation or otherwise, to which a holder of Series 2 Common Stock deliverable upon conversion would have been entitled on such recapitalization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 4 with respect to the rights of the holders of the Preferred Stock after the recapitalization to the end that the provisions of this Section 4 (including adjustment of the Conversion Price then in effect and the number of shares purchasable upon conversion of the Preferred Stock) shall be applicable after that event as nearly equivalently as may be practicable.

(g) In the event of Financing Acquisition Transaction, pursuant to which this corporation's stockholders are to receive securities of another corporation (the "Issuing Corporation") and the Effective Consideration Per Share is less than the Conversion Price applicable to a series of Preferred Stock in effect immediately prior to the consummation of the Financing Acquisition Transaction (the "Closing"), the Conversion Price for such series in effect immediately prior to the Closing shall be adjusted in a manner consistent with subsection (4)(d)(i)(A); provided that (i) the number of shares of "Additional Stock" issued shall be deemed to be equal to the number of the Issuing Corporation's Merger Shares, (ii) the aggregate consideration per share received by this corporation shall be deemed to be equal to the Effective Consideration Per Share and (iii) the number of shares of "Common Stock Outstanding" shall be deemed to be equal to the number of Consideration Merger Shares, with appropriate corresponding adjustments to the Original Issue Price and Conversion Price of the applicable series of Preferred Stock (including, without limitation, for purposes of determining (x) if the Effective Consideration Per Share is less than the Conversion Price of the applicable series of Preferred Stock and (y) the resulting Conversion Rate of the applicable series of Preferred Stock). For purposes of this subsection 4(g):

(i) "Combined Entity" shall mean the corporation issuing shares to the former stakeholders (including, without limitation, stockholders and other equityholders) of this corporation pursuant to the Financing Acquisition Transaction.

(ii) "Consideration Merger Shares" shall mean all Outstanding Stock of the Combined Entity to be issued to all former stakeholders (including, without limitation, stockholders and other equityholders) of this corporation, as of immediately prior to the Closing, upon the Closing as a result of their holdings in this corporation immediately prior to the Closing.

(iii) "Effective Consideration Per Share" shall mean the fair market value of all Outstanding Stock of the Issuing Corporation (calculated immediately prior to the Financing Acquisition Transaction), which shall be determined in a manner consistent with subsection 2(e)(ii), divided by the number of Issuing Corporation's Merger Shares.

(iv) “Financing Acquisition Transaction” means a bona fide business acquisition of or by this corporation, whether by merger, consolidation, sale of assets, sale or exchange of stock or otherwise, which does not constitute a Liquidation Event and is entered into primarily for the purpose of financing this corporation, which financing purposes include without limitation, providing this corporation with access to the Issuing Corporation’s cash or financing opportunities.

(v) “Issuing Corporation’s Merger Shares” shall mean all Outstanding Stock of the Combined Entity to be held by all former stakeholders (including, without limitation, stockholders and other equityholders) of the Issuing Corporation, as of immediately prior to the Closing, upon the Closing as a result of their holdings in the Issuing Corporation immediately prior to the Closing.

(vi) “Outstanding Stock” shall mean and include the following: (1) outstanding common stock, (2) common stock issuable upon conversion of outstanding preferred stock, (3) common stock issuable upon exercise of outstanding stock options and other rights to purchase shares of capital stock and (4) common stock issuable upon exercise (and, in the case of warrants to purchase preferred stock, conversion) of outstanding warrants. Shares described in (1) through (4) above shall be included whether vested or unvested, whether contingent or non-contingent and whether exercisable or not yet exercisable.

(h) No Fractional Shares and Certificate as to Adjustments.

(i) No fractional shares shall be issued upon the conversion of any share or shares of the Preferred Stock and the aggregate number of shares of Series 2 Common Stock to be issued to particular stockholders, shall be rounded down to the nearest whole share and the corporation shall pay in cash the fair market value of any fractional shares as of the time when entitlement to receive such fractions is determined. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Series 2 Common Stock and the number of shares of Series 2 Common Stock issuable upon such conversion.

(ii) Upon the occurrence of each adjustment or readjustment of the Conversion Price of Preferred Stock pursuant to this Section 4, this corporation, at its expense, shall promptly compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. This corporation shall, upon the written request at any time of any holder of Preferred Stock, furnish or cause to be furnished to such holder a like certificate setting forth (A) such adjustment and readjustment, (B) the Conversion Price for such series of Preferred Stock at the time in effect, and (C) the number of shares of Series 2 Common Stock and the amount, if any, of other property that at the time would be received upon the conversion of a share of Preferred Stock.

(i) Notices of Record Date. In the event of any taking by this corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend (other than a cash dividend) or other distribution, this corporation shall mail to each holder of Preferred Stock, at least twenty (20) days prior to the date specified therein, a notice specifying the date on which any such record is to be taken for the purpose of such dividend or distribution, and the amount and character of such dividend or distribution.

(j) Reservation of Stock Issuable Upon Conversion. This corporation shall at all times reserve and keep available out of its authorized but unissued shares of Series 2 Common Stock, solely for the purpose of effecting the conversion of the shares of the Preferred Stock, such number of its shares of Series 2 Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Preferred Stock; and if at any time the number of authorized but unissued shares of Series 2 Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, in addition to such other remedies as shall be available to the holder of such Preferred Stock, this corporation will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Series 2 Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate of Incorporation.

(k) Notices. Any notice required by the provisions of this Section 4 to be given to the holders of shares of Preferred Stock shall be deemed given four (4) business days after being deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of this corporation.

(l) Waiver of Adjustment to Conversion Price. Notwithstanding anything herein to the contrary, any downward adjustment of the Conversion Price of any series of Preferred Stock may be waived, either prospectively or retroactively and either generally or in a particular instance, by the written consent or vote of the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a) below) of the then outstanding shares of Preferred Stock (voting together as a single class and on an as-converted basis); provided, that, such waiver applies to all series of Preferred Stock. Any such waiver shall bind all future holders of shares of such series of Preferred Stock.

5. Voting Rights.

(a) General Voting Rights. The holder of (i) each share of Series 1 Preferred Stock, Series 2 Preferred Stock and Series 3 Preferred Stock shall have the right to 0.352941 votes for each share of Series 2 Common Stock into which such Preferred Stock could then be converted and (ii) each share of Series 4 Preferred Stock, Series 5 Preferred Stock, Series 6 Preferred Stock and Series 7 Preferred Stock, shall have the right to one vote for each share of Series 2 Common Stock into which such Preferred Stock could then be converted, and with respect to such votes, such holder shall have full voting rights and powers equal to the voting rights and powers of the holders of Common Stock, and shall be entitled, notwithstanding any provision hereof, to notice of any stockholders' meeting in accordance with the Bylaws of

this corporation, shall be entitled to vote, together with holders of Common Stock (except as otherwise provided below), with respect to any question upon which holders of Common Stock have the right to vote. Fractional votes shall not, however, be permitted and any fractional voting rights available on an as-converted basis (after aggregating all shares into which shares of Preferred Stock held by each holder could be converted) shall be rounded to the nearest whole number (with one-half being rounded upward).

(b) Voting for the Election of Directors. As long as any shares of Series 2 Common Stock remain outstanding, the holders of outstanding Series 2 Common Stock shall be entitled to elect two (2) directors of this corporation at any election of directors. As long as any shares of Series 4 Preferred Stock remain outstanding, the holders of outstanding Series 4 Preferred Stock shall be entitled to elect one (1) director of this corporation at any election of directors (the "Series 4 Director"). As long as any shares of Series 5 Preferred Stock remain outstanding, the holders of outstanding Series 5 Preferred Stock shall be entitled to elect one (1) director of this corporation at any election of directors (the "Series 5 Director"). As long as any shares of Series 6 Preferred Stock remain outstanding, the holders of outstanding Series 6 Preferred Stock shall be entitled to elect one (1) director of this corporation at any election of directors (the "Series 6 Director"). As long as any shares of Series 7 Preferred Stock remain outstanding, the holders of outstanding Series 7 Preferred Stock shall be entitled to elect one (1) director of this corporation at any election of directors (the "Series 7 Director"). The holders of Preferred Stock and Series 2 Common Stock (voting together as a single class and not as separate series, and on an as-converted basis, with voting power determined in accordance with subsection (5)(a) below) shall be entitled to elect any remaining directors of this corporation. Each committee of the this corporation's Board of Directors shall include the directors elected by the holders of Series 4 Preferred Stock, Series 5 Preferred Stock, Series 6 Preferred Stock and Series 7 Preferred Stock.

Notwithstanding the provisions of Section 223(a)(1) and 223(a)(2) of the General Corporation Law, any vacancy, including newly created directorships resulting from any increase in the authorized number of directors or amendment of this Certificate of Incorporation, and vacancies created by removal or resignation of a director, may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced; provided, however, that where such vacancy occurs among the directors elected by the holders of a class or series of stock, the holders of shares of such class or series may override the Board's action to fill such vacancy by (i) voting for their own designee to fill such vacancy at a meeting of this corporation's stockholders or (ii) written consent, if the consenting stockholders hold a sufficient number of shares to elect their designee at a meeting of the stockholders. Any director may be removed during his or her term of office, either with or without cause, by, and only by, the affirmative vote of the holders of the shares of the class or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, and any vacancy thereby created may be filled by the holders of that class or series of stock represented at the meeting or pursuant to written consent.

6. Protective Provisions.

(a) So long as 5,000,000 shares of Preferred Stock remain outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) without first obtaining the approval (by vote or written consent, as provided by law) of the holders of at least a majority of the voting power (as determined in accordance with subsection (5)(a)) of all then outstanding shares of Series 1 Preferred Stock, Series 2 Preferred Stock, Series 3 Preferred Stock, Series 4 Preferred Stock, Series 5 Preferred Stock, Series 6 Preferred Stock and Series 7 Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis):

(i) amend, restate, alter or repeal any provision of this corporation's Restated Certificate of Incorporation or bylaws, whether by merger, consolidation or otherwise;

(ii) increase or decrease the total number of authorized shares of Preferred Stock;

(iii) create or authorize the creation (by reclassification, merger or otherwise) of or issue any other security convertible into or exercisable for any equity security, having rights, preferences or privileges senior to or pari passu with any series of Preferred Stock, other than the issuance of any authorized but unissued shares of Series 7 Preferred Stock designated in this Restated Certificate of Incorporation (including any security convertible into or exercisable for such shares of Preferred Stock);

(iv) purchase or redeem or pay any dividend on any capital stock other than stock repurchased from former service providers of this corporation in connection with the cessation of their services;

(v) liquidate, dissolve, or wind-up the affairs of this corporation, or effect any Liquidation Event;

(vi) increase or decrease the authorized number of directors of this corporation;

(vii) exclusively license or transfer all or any portion of the intellectual property rights of this corporation; or

(viii) acquire substantially all of the assets of, or a controlling interest in the voting securities of, another entity, whether by merger, consolidation or otherwise.

(b) So long as any shares of Series 4 Preferred Stock remain outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) adversely alter or change the rights, preferences or privileges of the Series 4 Preferred Stock in a manner that is adverse and different in effect with respect to the Series 4 Preferred Stock as compared to any other series of Preferred Stock without first obtaining the approval (by vote or written consent, as provided by law) of the holders of a majority of the outstanding shares of Series 4 Preferred Stock (voting as a separate class).

(c) So long as any shares of Series 5 Preferred Stock remain outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) adversely alter or change the rights, preferences or privileges of the Series 5 Preferred Stock in a manner that is adverse and different in effect with respect to the Series 5 Preferred Stock as compared to any other series of Preferred Stock without first obtaining the approval (by vote or written consent, as provided by law) of the holders of a majority of the outstanding shares of Series 5 Preferred Stock (voting as a separate class).

(d) So long as any shares of Series 6 Preferred Stock remain outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) adversely alter or change the rights, preferences or privileges of the Series 6 Preferred Stock in a manner that is adverse and different in effect with respect to the Series 6 Preferred Stock as compared to any other series of Preferred Stock without first obtaining the approval (by vote or written consent, as provided by law) of the holders of a majority of the outstanding shares of Series 6 Preferred Stock (voting as a separate class).

(e) So long as any shares of Series 7 Preferred Stock remain outstanding, this corporation shall not (by amendment, merger, consolidation or otherwise) adversely alter or change the rights, preferences or privileges of the Series 7 Preferred Stock in a manner that is adverse and different in effect with respect to the Series 7 Preferred Stock as compared to any other series of Preferred Stock without first obtaining the approval (by vote or written consent, as provided by law) of the holders of at least fifty five percent (55%) of the outstanding shares of Series 7 Preferred Stock (voting as a separate class).

7. Status of Converted Stock. In the event any shares of Preferred Stock shall be converted pursuant to Section 4 hereof, the shares so converted shall be cancelled and shall not be issuable by this corporation. The Certificate of Incorporation of this corporation shall be appropriately amended to effect the corresponding reduction in this corporation's authorized capital stock.

C. Common Stock. The rights, preferences, privileges and restrictions granted to and imposed on the Common Stock are as set forth below in this Article IV(C).

1. Dividend Rights. Subject to the prior rights of holders of all classes of stock at the time outstanding having prior rights as to dividends, the holders of the Common Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of any assets of this corporation legally available therefor, any dividends as may be declared from time to time by the Board of Directors.

2. Liquidation Rights. Upon the liquidation, dissolution or winding up of this corporation, the assets of this corporation shall be distributed as provided in Section 2 of Article IV(B) hereof.

3. Redemption. The Common Stock is not redeemable at the option of the holder.

4. Voting Rights.

(a) Series 1 Common Stock. Shares of Series 1 Common Stock shall have no voting rights, except as otherwise required by law.

(b) Series 2 Common Stock. The holder of each share of Series 2 Common Stock shall have the right to one vote for each such share, and shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws of this corporation, and shall be entitled to vote upon such matters and in such manner as may be provided by law.

Notwithstanding the foregoing, the number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of this corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

ARTICLE V

Except as otherwise provided in this Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of this corporation.

ARTICLE VI

A. The number of directors of this corporation shall be determined in the manner set forth in the Bylaws of this corporation.

ARTICLE VII

Elections of directors need not be by written ballot unless the Bylaws of this corporation shall so provide.

ARTICLE VIII

Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of this corporation may provide. The books of this corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of this corporation.

ARTICLE IX

A director of this corporation shall not be personally liable to this corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to this corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law, or (iv) for any transaction from which the director derived any improper personal benefit. If the General Corporation Law is amended after approval by the stockholders of this Article IX to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of this corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article IX by the stockholders of this corporation shall not adversely affect any right or protection of a director of this corporation existing at the time of, or increase the liability of any director of this corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

ARTICLE X

This corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner provided herein and as now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

ARTICLE XI

This corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "Indemnified Person") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding"), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the corporation or, while a director or officer of the corporation, is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Indemnified Person in such Proceeding, subject only to limits created by applicable General Corporation Law (statutory or non-statutory), with respect to actions for breach of duty to this corporation, its stockholders, and others.

The corporation shall pay the expenses (including attorneys' fees) incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article XI or otherwise.

Any amendment, repeal or modification of the foregoing provisions of this Article XI shall not adversely affect any right or protection of a director, officer, agent, or other person existing at the time of, or increase the liability of any director of this corporation with respect to any acts or omissions of such director, officer or agent occurring prior to, such amendment, repeal or modification.

ARTICLE XII

This corporation renounces any interest or expectancy of this corporation in, or in being offered an opportunity to participate in, an Excluded Opportunity. An "Excluded Opportunity" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of this corporation who is not an employee of this corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of this corporation or any of its subsidiaries (collectively, "Covered Persons"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of this corporation.

ARTICLE XIII

In connection with repurchases by this corporation of its Common Stock from employees, officers, directors, advisors, consultants or other persons performing services for this corporation or any subsidiary pursuant to agreements under which the corporation has the option to repurchase such shares at cost upon the occurrence of certain events, such as the termination of employment, Sections 502 and 503 of the California Corporations Code shall not apply in all or in part with respect to such repurchases.

ARTICLE XIV

A. Forum Selection. Unless this corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of this corporation, (2) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of this corporation to this corporation or this corporation's stockholders, (3) any action arising pursuant to any provision of the General Corporation Law or this Restated Certificate of Incorporation or the Bylaws (as either may be amended from time to time), or (4) any action asserting a claim governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of this corporation shall be deemed to have notice of and consented to the provisions of this Article XIII.

B. Personal Jurisdiction. If any action the subject matter of which is within the scope of Section A immediately above is filed in a court other than a court located within the State of Delaware (a "Foreign Action") in the name of any stockholder, such stockholder shall be deemed to have consented to (i) the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce Section A immediately above (an "FSC Enforcement Action") and (ii) having service of process made upon such stockholder in any such FSC Enforcement Action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder.

* * *

THIRD: The foregoing amendment and restatement was approved by the holders of the requisite number of shares of said corporation in accordance with Section 228 of the General Corporation Law.

FOURTH: That said Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this corporation's Restated Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 1st day of June, 2016.

/s/ Jeffrey Dunn

Jeffrey Dunn, President

CERTIFICATE OF AMENDMENT
TO CERTIFICATE OF INCORPORATION
OF SI-BONE, INC.

The undersigned Jeffrey Dunn hereby certifies that:

ONE: He is the duly elected and acting President of SI-BONE, Inc., a Delaware corporation.

TWO: The Certificate of Incorporation of this corporation was originally filed with the Secretary of State of Delaware on March 18, 2008 under the name SI-BONE, Inc..

THREE: Pursuant to Section 242 of the General Corporation Law of the State of Delaware (the "***DGCL***"), this Certificate of Amendment of Certificate of Incorporation amends this corporation's Certificate of Incorporation as follows:

(i) Article IV.A. of this corporation's Certificate of Incorporation is amended to read in its entirety as follows:

"Authorization of Stock. This corporation is authorized to issue two classes of stock to be designated, respectively, common stock and preferred stock. The total number of shares that this corporation is authorized to issue is Five Hundred Sixty Five Million Eight Hundred Eighty Five Thousand Five Hundred Twenty (565,885,520). The total number of shares of common stock authorized to be issued is Three Hundred Forty Eight Million (348,000,000), par value $0.0001 per share (the "Common Stock"), of which One Hundred Eight Million (108,000,000) shares are designated as "Series 1 Common Stock" and Two Hundred Forty Million (240,000,000) shares are designated as "Series 2 Common Stock". The total number of shares of preferred stock authorized to be issued is Two Hundred Seventeen Million Eight Hundred Eighty Five Thousand Five Hundred Twenty (217,885,520), par value $0.0001 per share (the "Preferred Stock"), of which Four Million Four Hundred Eleven Thousand Seven Hundred Thirty One (4,411,731) shares are designated as "Series 1 Preferred Stock," Twelve Million Seven Hundred Seventy Three Thousand One Hundred Seven (12,773,107) shares are designated as "Series 2 Preferred Stock", Eight Million Nine Hundred Eighty One Thousand Two Hundred Fifty (8,981,250) shares are designated as "Series 3 Preferred Stock", Forty Five Million One Hundred Sixty Two Thousand Eight Hundred Fifty Three (45,162,853) shares are designated as "Series 4 Preferred Stock", Thirty Seven Million Five Hundred Fifty Thousand Four Hundred Eighty Four (37,550,484) shares are designated as "Series 5 Preferred Stock", Sixty One Million Six Thousand Ninety Five (61,006,095) are designated as "Series 6 Preferred Stock" and Forty Eight Million (48,000,000) are designated as "Series 7 Preferred Stock"."

(ii) The last sentence of Subsection 4(a) of Article IV, Part B of this corporation's Certificate of Incorporation is amended to read in its entirety as follows:

"The initial Conversion Price per share for the Series 6 Preferred Stock shall be $0.8643, and the Initial Conversion Price per share for the Series 1 Preferred Stock, Series 2 Preferred Stock, Series 3 Preferred Stock, Series 4 Preferred Stock, Series 5 Preferred Stock and Series 7 Preferred Stock shall be the Original Issue Price applicable to such series; provided, however, that the Conversion Price for the Preferred Stock shall be subject to adjustment as set forth in subsection 4(d)."

The foregoing amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

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The undersigned has executed this certificate on February 17th, 2017.

/s/ Jeffrey Dunn

Jeffrey Dunn
President

Exhibit 3.3

SECOND AMENDED AND RESTATED BYLAWS OF

SI-BONE, INC.

(A DELAWARE CORPORATION)

TABLE OF CONTENTS

SECOND AMENDED AND RESTATED BYLAWS
OF
SI-BONE, INC.

ARTICLE I
OFFICES

1.1 **Registered Office.** The registered office shall be in the City of Dover, County of Kent, State of Delaware.

1.2 **Offices.** SI-BONE, Inc. (the "Company") may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the corporation may require.

ARTICLE II
MEETINGS OF STOCKHOLDERS

2.1 **Location.** All meetings of the stockholders for the election of directors shall be held in the City of Dover, State of Delaware, at such place as may be fixed from time to time by the Board of Directors, or at such other place either within or without the State of Delaware as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting; provided, however, that the Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211 of the Delaware General Corporations Law ("DGCL"). Meetings of stockholders for any other purpose may be held at such time and place, if any, within or without the State of Delaware, as shall be stated in the notice of the meeting or in a duly executed waiver of notice thereof, or a waiver by electronic transmission by the person entitled to notice.

2.2 **Timing.** Annual meetings of stockholders, commencing with the year 2008, shall be held at such date and time as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting, at which they shall elect by a plurality vote a Board of Directors, and transact such other business as may properly be brought before the meeting.

2.3 **Notice of Meeting.** Written notice of any stockholder meeting stating the place, if any, date and hour of the meeting, the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, shall be given to each stockholder entitled to vote at such meeting not fewer than ten (10) nor more than sixty (60) days before the date of the meeting.

2.4 **Stockholders' Records.** The officer who has charge of the stock ledger of the corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address (but not the electronic address or other electronic contact information) of each stockholder and the number of shares registered in the name of each

stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least 10 days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the principal place of business of the corporation. In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to stockholders of the corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting.

2.5 **Special Meetings.** Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute or by the certificate of incorporation, may be called by the president and shall be called by the president or secretary at the request in writing of a majority of the Board of Directors, or at the request in writing of stockholders owning at least fifty percent (50%) in amount of the entire capital stock of the corporation issued and outstanding and entitled to vote. Such request shall state the purpose or purposes of the proposed meeting.

2.6 **Notice of Meeting.** Written notice of a special meeting stating the place, date and hour of the meeting and the purpose or purposes for which the meeting is called, shall be given not fewer than ten (10) nor more than sixty (60) days before the date of the meeting, to each stockholder entitled to vote at such meeting. The means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting shall also be provided in the notice.

2.7 **Business Transacted at Special Meeting.** Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

2.8 **Quorum; Meeting Adjournment; Presence by Remote Means.**

(a) *Quorum; Meeting Adjournment*. The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted that might have been transacted at the meeting as originally notified. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) *Presence by Remote Means*. If authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication:

(1) participate in a meeting of stockholders; and

(2) be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that (i) the corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder, (ii) the corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings, and (iii) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the corporation.

2.9 **Voting Thresholds.** When a quorum is present at any meeting, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy shall decide any question brought before such meeting, unless the question is one upon which by express provision of the statutes or of the certificate of incorporation, a different vote is required, in which case such express provision shall govern and control the decision of such question.

2.10 **Number of Votes Per Share.** Unless otherwise provided in the certificate of incorporation, each stockholder shall at every meeting of the stockholders be entitled to one vote by such stockholder or by proxy for each share of the capital stock having voting power held by such stockholder, but no proxy shall be voted on after three years from its date, unless the proxy provides for a longer period.

2.11 **Action by Written Consent of Stockholders; Electronic Consent; Notice of Action.**

(a) *Action by Written Consent of Stockholders.* Unless otherwise provided by the certificate of incorporation, any action required or permitted to be taken at any annual or special meeting of the stockholders may be taken without a meeting, without prior notice and without a vote, if a consent in writing setting forth the action so taken, is signed in a manner permitted by law by the holders of outstanding stock having not less than the 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. Written stockholder consents shall bear the date of signature of each stockholder who signs the consent in the manner permitted by law and shall be delivered to the corporation as provided in subsection (b) below. No written consent shall be effective to take the action set forth therein unless, within sixty (60) days of the earliest dated consent delivered to the corporation in the manner provided above, written consents signed by a sufficient number of stockholders to take the action set forth therein are delivered to the corporation in the manner provided above.

(b) *Electronic Consent*. A telegram, cablegram or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, or a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, provided that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the corporation can determine (1) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder and (2) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form is delivered to the corporation by delivery to its registered office in the State of Delaware, 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. Delivery made to a corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram or other electronic transmission may be otherwise delivered to the principal place of business of the corporation or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the Board of Directors of the corporation.

(c) *Notice of Action*. Prompt notice of any action taken pursuant to this Section 2.11 shall be provided to the stockholders in accordance with Section 228(e) of the DGCL.

ARTICLE III
DIRECTORS

3.1 **Authorized Directors.** The number of directors that shall constitute the whole Board of Directors shall be determined by resolution of the Board of Directors or by the stockholders at the annual meeting of the stockholders, except as provided in Section 3.2 of this Article, and each director elected shall hold office until his successor is elected and qualified. Directors need not be stockholders.

3.2 **Vacancies.** Unless otherwise provided in the corporation's certificate of incorporation, as it may be amended, vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced. If there are no directors in office, then an election of directors may be held in the manner provided by statute. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of

the whole Board of Directors (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent (10%) of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

3.3 **Board Authority.** The business of the corporation shall be managed by or under the direction of its Board of Directors, which may exercise all such powers of the corporation and do all such lawful acts and things as are not by statute or by the certificate of incorporation or by these bylaws directed or required to be exercised or done by the stockholders.

3.4 **Location of Meetings.** The Board of Directors of the corporation may hold meetings, both regular and special, either within or without the State of Delaware.

3.5 **First Meeting.** The first meeting of each newly elected Board of Directors shall be held at such time and place as shall be fixed by the vote of the stockholders at the annual meeting and no notice of such meeting shall be necessary to the newly elected directors in order to legally constitute the meeting, provided a quorum shall be present. In the event of the failure of the stockholders to fix the time or place of such first meeting of the newly elected Board of Directors, or in the event such meeting is not held at the time and place so fixed by the stockholders, the meeting may be held at such time and place as shall be specified in a notice given as hereinafter provided for special meetings of the Board of Directors, or as shall be specified in a written waiver signed by all of the directors.

3.6 **Regular Meetings.** Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the Board of Directors.

3.7 **Special Meetings.** Special meetings of the Board of Directors may be called by the president upon notice to each director; special meetings shall be called by the president or secretary in like manner and on like notice on the written request of two (2) directors unless the Board of Directors consists of only one director, in which case special meetings shall be called by the president or secretary in like manner and on like notice on the written request of the sole director. Notice of any special meeting shall be given to each director at his business or residence in writing, or by telegram, facsimile transmission, telephone communication or electronic transmission (provided, with respect to electronic transmission, that the director has consented to receive the form of transmission at the address to which it is directed). If mailed, such notice shall be deemed adequately delivered when deposited in the United States mails so addressed, with postage thereon prepaid, at least five (5) days before such meeting. If by telegram, such notice shall be deemed adequately delivered when the telegram is delivered to the telegraph company at least twenty-four (24) hours before such meeting. If by facsimile transmission or other electronic transmission, such notice shall be transmitted at least twenty-four (24) hours before such meeting and shall only be deemed to be adequately delivered to the recipient upon the Company’s receipt of a confirmation sent via electronic mail or other electronic transmission or twenty-four (24) hours after a copy of such notice is sent via overnight courier. If by telephone, the notice shall be given at least twelve (12) hours prior to the time set

for the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice of such meeting, except for amendments to these Bylaws as provided under Section 8.1 of Article VIII hereof. A meeting may be held at any time without notice if all the directors are present (except as otherwise provided by law) or if those not present waive notice of the meeting in writing, either before or after such meeting.

3.8 **Quorum.** At all meetings of the Board of Directors a majority of the directors shall constitute a quorum for the transaction of business and any act of a majority of the directors present at any meeting at which there is a quorum shall be an act of the Board of Directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

3.9 **Action Without a Meeting.** Unless otherwise restricted by the certificate of incorporation or these bylaws, 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 of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing, writings, electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee.

3.10 **Telephonic Meetings.** Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board of Directors or any committee designated by the Board of Directors may participate in a meeting of the Board of Directors or any committee, by means of conference telephone or other means of communication by which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at the meeting.

3.11 **Committees.** Subject to the Company's Certificate of Incorporation then in effect, he Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee.

In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

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 the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval or (ii) adopting, amending or repealing any provision of these bylaws.

3.12 **Minutes of Meetings.** Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

3.13 **Compensation of Directors.** Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board of Directors shall have the authority to fix the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director. No such payment shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

3.14 **Removal of Directors.** Unless otherwise provided by the certificate of incorporation or these bylaws, any director or the entire Board of Directors may be removed, with or without cause, by the holders of a majority of shares entitled to vote at an election of directors.

ARTICLE IV
NOTICES

4.1 **Notice.** Unless otherwise provided in these bylaws, whenever, under the provisions of the statutes or of the certificate of incorporation or of these bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at his address as it appears on the records of the corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Notice to directors may also be given by telegram, facsimile transmission, or electronic transmission (provided, with respect to electronic transmission, that the director has consented to receive the form of transmission at the address to which it is directed).

4.2 **Waiver of Notice.** Whenever any notice is required to be given under the provisions of the statutes or of the certificate of incorporation or of these bylaws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

4.3 **Electronic Notice.**

(a) *Electronic Transmission*. Without limiting the manner by which notice otherwise may be given effectively to stockholders and directors, any notice to stockholders or directors given by the corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder or director to whom the notice is given. Any such consent shall be revocable by the stockholder or director by written notice to the corporation. Any such consent shall be deemed revoked if (1) the corporation is unable to deliver by

electronic transmission two consecutive notices given by the corporation in accordance with such consent and (2) such inability becomes known to the secretary or an assistant secretary of the corporation or to the transfer agent, or other person responsible for the giving of notice; provided, however, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

(b) *Effective Date of Notice*. Notice given pursuant to subsection (a) of this section shall be deemed given: (1) if by facsimile telecommunication, when directed to a number at which the stockholder or director has consented to receive notice and upon the Company's receipt of a confirmation sent via electronic mail or other electronic transmission or twenty-four (24) hours after a copy of such notice is sent via overnight courier; (2) if by electronic mail, when directed to an electronic mail address at which the stockholder or director has consented to receive notice and upon the Company's receipt of a confirmation sent via electronic mail or other electronic transmission or twenty-four (24) hours after a copy of such notice is sent via overnight courier; (3) if by a posting on an electronic network together with separate notice to the stockholder or director of such specific posting, upon the later of (i) such posting and (ii) the giving of such separate notice; and (4) if by any other form of electronic transmission, when directed to the stockholder or director shall only be deemed to be adequately delivered to the recipient upon the Company's receipt of a confirmation sent via electronic mail or other electronic transmission or twenty-four (24) hours after a copy of such notice is sent via overnight courier. An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

(c) *Form of Electronic Transmission*. For purposes of these bylaws, "electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

ARTICLE V
OFFICERS

5.1 **Required and Permitted Officers.** The officers of the corporation shall be chosen by the Board of Directors and shall be a president, treasurer and a secretary. The Board of Directors may elect from among its members a Chairman of the Board and a Vice-Chairman of the Board. The Board of Directors may also choose one or more vice-presidents, assistant secretaries and assistant treasurers. Any number of offices may be held by the same person, unless the certificate of incorporation or these bylaws otherwise provide.

5.2 **Appointment of Required Officers.** The Board of Directors at its first meeting after each annual meeting of stockholders shall choose a president, a treasurer, and a secretary and may choose vice-presidents.

5.3 **Appointment of Permitted Officers.** The Board of Directors may appoint such other officers and agents as it shall deem necessary who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board of Directors.

5.4 **Officer Compensation.** The salaries of all officers and agents of the corporation shall be fixed by the Board of Directors.

5.5 **Term of Office; Vacancies.** The officers of the corporation shall hold office until their successors are chosen and qualify. Any officer elected or appointed by the Board of Directors may be removed at any time by the affirmative vote of a majority of the Board of Directors. Any vacancy occurring in any office of the corporation shall be filled by the Board of Directors.

THE CHAIRMAN OF THE BOARD

5.6 **Chairman Presides.** The Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which he or she shall be present. he or she shall have and may exercise such powers as are, from time to time, assigned to him by the Board of Directors and as may be provided by law.

5.7 **Absence of Chairman.** In the absence of the Chairman of the Board, the Vice-Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which he or she shall be present. He or she shall have and may exercise such powers as are, from time to time, assigned to him by the Board of Directors and as may be provided by law.

THE PRESIDENT AND VICE-PRESIDENTS

5.8 **Powers of President.** The president shall be the chief executive officer of the corporation; in the absence of the Chairman and Vice-Chairman of the Board he or she shall preside at all meetings of the stockholders and the Board of Directors; he or she shall have general and active management of the business of the corporation and shall see that all orders and resolutions of the Board of Directors are carried into effect.

5.9 **President's Signature Authority.** The president shall execute bonds, mortgages and other contracts requiring a seal, under the seal of the corporation, except where required or permitted by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly delegated by the Board of Directors to some other officer or agent of the corporation.

5.10 **Absence of President.** In the absence of the president or in the event of his inability or refusal to act, the vice-president, if any, (or in the event there be more than one vice-president, the vice-presidents in the order designated by the directors, or in the absence of any designation, then in the order of their election) shall perform the duties of the president, and when so acting, shall have all the powers of and be subject to all the restrictions upon the president. The vice-presidents shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

THE SECRETARY AND ASSISTANT SECRETARY

5.11 **Duties of Secretary.** The secretary shall attend all meetings of the Board of Directors and all meetings of the stockholders and record all the proceedings of the meetings of the corporation and of the Board of Directors in a book to be kept for that purpose and shall perform like duties for the standing committees when required. He or she shall give, or cause to be given, notice of all meetings of the stockholders and special meetings of the Board of Directors, and shall perform such other duties as may be prescribed by the Board of Directors or president, under whose supervision he or she shall be. He or she shall have custody of the corporate seal of the corporation and he or she, or an assistant secretary, shall have authority to affix the same to any instrument requiring it and when so affixed, it may be attested by his signature or by the signature of such assistant secretary. The Board of Directors may give general authority to any other officer to affix the seal of the corporation and to attest the affixing by his signature.

5.12 **Duties of Assistant Secretary.** The assistant secretary, or if there be more than one, the assistant secretaries in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the secretary or in the event of his inability or refusal to act, perform the duties and exercise the powers of the secretary and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

THE TREASURER AND ASSISTANT TREASURERS

5.13 **Duties of Treasurer.** The treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation in such depositories as may be designated by the Board of Directors.

5.14 **Disbursements and Financial Reports.** He or she shall disburse the funds of the corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the president and the Board of Directors, at its regular meetings or when the Board of Directors so requires, an account of all his transactions as treasurer and of the financial condition of the corporation.

5.15 **Treasurer's Bond.** If required by the Board of Directors, the treasurer shall give the corporation a bond (which shall be renewed every six years) in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors for the faithful performance of the duties of his office and for the restoration to the corporation, in case of his death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his possession or under his control belonging to the corporation.

5.16 **Duties of Assistant Treasurer.** The assistant treasurer, or if there shall be more than one, the assistant treasurers in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the treasurer or in the event of the treasurer's inability or refusal to act, perform the duties and exercise the powers of the treasurer and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

ARTICLE VI
CERTIFICATE OF STOCK

6.1 **Stock Certificates.** Every holder of stock in the corporation shall be entitled to have a certificate, signed by or in the name of the corporation by, the Chairman or Vice-Chairman of the Board of Directors, or the president or a vice-president and the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the corporation, certifying the number of shares owned by him in the corporation.

Certificates may be issued for partly paid shares and in such case upon the face or back of the certificates issued to represent any such partly paid shares, the total amount of the consideration to be paid therefor, and the amount paid thereon shall be specified.

If the corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualification, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the corporation shall issue to represent such class or series of stock, provided that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the corporation shall issue to represent such class or series of stock, a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

6.2 **Facsimile Signatures.** Any or all of the signatures on the certificate may be facsimile. In the event that any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, the certificate may be issued by the corporation with the same effect as if such officer, transfer agent or registrar were still acting as such at the date of issue.

6.3 **Lost Certificates.** The Board of Directors may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost, stolen or destroyed upon the making of an affidavit of that fact by the person claiming the certificate to be lost, stolen or destroyed. When authorizing such issuance of a new certificate or certificates, the Board of Directors may, in its discretion and as a condition precedent to the issuance, require the owner of such lost, stolen or destroyed certificate or certificates, or his legal representative, to advertise the same in such manner as it shall require and/or to give the corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

6.4 **Transfer of Stock.** Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

(a) Notwithstanding anything to the contrary, a stockholder shall not transfer, whether by sale, gift, pledge or otherwise, Restricted Shares (as such term is defined below) to any third-party transferee unless such transfer is approved by the Board of Directors prior to such transfer, which approval may be granted or withheld in the Board of Directors' sole and absolute discretion. For clarity, the Board of Directors may reject such transfer if the third-party transferee is a Healthcare Provider (as such term is defined below). "Restricted Shares" are shares of the corporation's Common Stock (including Common Stock issued or issuable upon the conversion of Preferred Stock): (1) that were issued prior to or in conjunction with the approval of these bylaws and are owned by stockholders who voted in favor of the approval of these bylaws (the date of such approval, the "Approval Date"); or (2) that were issued after the Approval Date. Any purported transfer of any Restricted Shares effected in violation of this Section 6.4 shall be null and void and shall have no force or effect and the corporation shall not register any such purported transfer; provided, however, approval by the Board of Directors shall not be required to effect (i) a transfer by beneficiary designation, will or intestate succession or (ii) a transfer for no consideration to one or more members of a stockholder's Immediate Family or to a trust established by the stockholder for the benefit of the stockholder and/or one or more members of the stockholder's Immediate Family, provided in either case that the transferee agrees in writing on a form prescribed by the corporation to be bound by all provisions of all agreements applicable to the Restricted Shares. For purposes of this Section 6.4, "Immediate Family" shall mean any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law and shall include adoptive relationships. "Healthcare Provider" shall mean any person who has a National Provider Identifier (NPI) Number under the National Plan & Provider Enumeration System, including such person's Immediate Family members and affiliates.

(b) Any stockholder seeking the approval of the Board of Directors of a transfer of some or all of its shares to a third-party transferee shall give written notice (the "Transfer Notice") thereof 60 days prior to the desired transfer date to the Secretary of the corporation that shall include: (1) the name of the stockholder; (2) the proposed transfer; (3) the number of shares the transfer of which approval is thereby requested; (4) the purchase price, if any, of the shares proposed for transfer; (5) the name, address, and primary occupation or profession of the proposed transferee; (6) proof satisfactory to the corporation that the proposed sale or transfer will not violate any applicable federal, state or foreign securities laws; and (7) representations by the stockholder that (i) the proposed transferee has been made aware that the proposed transfer is non-binding until written notice is provided by the Company that the Board of Directors has approved the proposed transfer pursuant to this Section 6.4 and (ii) that the stockholder has not provided any confidential information of the Company, either orally or in writing, to the proposed transferee, unless the stockholder has obtained the prior written consent of the Company. The corporation may require the stockholder to supplement its notice with such additional information as the corporation may request. The Company shall use reasonable efforts to respond to the Transfer Notice regarding the approval or disapproval of the Board of Directors within 45 days of the receipt of the Transfer Notice; provided, however, that the Company's failure to approve or disapprove of such transfer within such 45 day period shall not constitute an approval of such transfer.

(c) Certificates representing shares of stock issued after the Approval Date shall have impressed on, printed on, written on or otherwise affixed to them the following legend:

THE TRANSFER OF SECURITIES REPRESENTED HEREBY IS SUBJECT TO RESTRICTIONS REQUIRING APPROVAL OF THE BOARD OF DIRECTORS PURSUANT TO AND IN ACCORDANCE WITH SECTION 6.4 OF THE BYLAWS OF THE COMPANY, COPIES OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST TO THE COMPANY AT ITS PRINCIPAL PLACE OF BUSINESS. THE COMPANY SHALL NOT REGISTER OR OTHERWISE RECOGNIZE OR GIVE EFFECT TO ANY PURPORTED TRANSFER OF SHARES OF STOCK THAT DOES NOT COMPLY WITH SECTION 6.4 OF THE BYLAWS OF THE COMPANY.

This corporation shall take all such actions as are practicable to cause the certificates representing shares issued prior to the Approval Date that are subject to the restrictions on transfer set forth in this Section 6.4 to contain the foregoing legend.

(d) The foregoing transfer restrictions shall terminate upon the earliest to occur of the following:

(1) immediately prior to the closing of a Liquidation Event (as defined in the Company's certificate of incorporation, as amended from time to time); or

(2) immediately prior to the closing of a firm commitment underwritten initial public offering pursuant to an effective registration statement filed under the Securities Act of 1933, as amended, covering the offer and sale of the Company's common stock.

6.5 **Fixing a Record Date.** In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled 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 shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action. 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.

6.6 **Registered Stockholders.** The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, to vote as such owner, to hold liable for calls and assessments a person registered on its books as the owner of shares and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

ARTICLE VII
GENERAL PROVISIONS

7.1 **Dividends.** Dividends upon the capital stock of the corporation, if any, subject to the provisions of the certificate of incorporation, may be declared by the Board of Directors at any regular or special meeting, pursuant to law. Dividends may be paid in cash, in property or in shares of the capital stock, subject to the provisions of the certificate of incorporation.

7.2 **Reserve for Dividends.** Before payment of any dividend, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the directors from time to time, in their sole discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purposes as the directors think conducive to the interests of the corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

7.3 **Checks.** All checks or demands for money and notes of the corporation shall be signed by such officer or officers or such other person or persons as the Board of Directors may from time to time designate.

7.4 **Fiscal Year.** The fiscal year of the corporation shall be fixed by resolution of the Board of Directors.

7.5 **Corporate Seal.** The Board of Directors may adopt a corporate seal having inscribed thereon the name of the corporation, the year of its organization and the words “Corporate Seal, Delaware.” The seal may be used by causing it or a facsimile thereof to be impressed or affixed or otherwise reproduced.

7.6 **Indemnification.** The corporation shall, to the fullest extent authorized under the laws of the State of Delaware, as those laws may be amended and supplemented from time to time, indemnify any director made, or threatened to be made, a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of being a director of the corporation or a predecessor corporation or a director or officer of another corporation, if such person served in such position at the request of the corporation; provided, however, that the corporation shall indemnify any such director or officer in connection with a proceeding initiated by such director or officer only if such proceeding was authorized by the Board of Directors of the corporation. The indemnification provided for in this Section 7.6 shall: (i) not be deemed exclusive of any other rights to which those indemnified may be entitled under these bylaws, agreement or vote of stockholders or disinterested directors or otherwise, both as to action in their official capacities and as to action in another capacity while holding such office, (ii) continue as to a person who has ceased to be a director, and (iii) inure to the benefit of the heirs, executors and administrators of a person who has ceased to be a director. The corporation’s obligation to provide indemnification under this Section 7.6 shall be offset to the extent of any other source of indemnification or any otherwise applicable insurance coverage under a policy maintained by the corporation or any other person.

Expenses incurred by a director of the corporation in defending a civil or criminal action, suit or proceeding by reason of the fact that he or she is or was a director of the corporation (or was serving at the corporation's request as a director or officer of another corporation) shall 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 such director to repay such amount if it shall ultimately be determined that he or she is not entitled to be indemnified by the corporation as authorized by relevant sections of the DGCL. Notwithstanding the foregoing, the corporation shall not be required to advance such expenses to an agent who is a party to an action, suit or proceeding brought by the corporation and approved by a majority of the Board of Directors of the corporation that alleges willful misappropriation of corporate assets by such agent, disclosure of confidential information in violation of such agent's fiduciary or contractual obligations to the corporation or any other willful and deliberate breach in bad faith of such agent's duty to the corporation or its stockholders.

The foregoing provisions of this Section 7.6 shall be deemed to be a contract between the corporation and each director who serves in such capacity at any time while this bylaw is in effect, and any repeal or modification thereof shall not affect any rights or obligations then existing with respect to any state of facts then or theretofore existing or any action, suit or proceeding theretofore or thereafter brought based in whole or in part upon any such state of facts.

The Board of Directors in its sole discretion shall have power on behalf of the corporation to indemnify any person, other than a director, made a party to any action, suit or proceeding by reason of the fact that he or she, his testator or intestate, is or was an officer or employee of the corporation.

To assure indemnification under this Section 7.6 of all directors, officers and employees who are determined by the corporation or otherwise to be or to have been "fiduciaries" of any employee benefit plan of the corporation that may exist from time to time, Section 145 of the DGCL shall, for the purposes of this Section 7.6, be interpreted as follows: an "other enterprise" shall be deemed to include such an employee benefit plan, including without limitation, any plan of the corporation that is governed by the Act of Congress entitled "Employee Retirement Income Security Act of 1974," as amended from time to time; the corporation shall be deemed to have requested a person to serve the corporation for purposes of Section 145 of the DGCL, as administrator of an employee benefit plan where the performance by such person of his duties to the corporation also imposes duties on, or otherwise involves services by, such person to the plan or participants or beneficiaries of the plan; excise taxes assessed on a person with respect to an employee benefit plan pursuant to such Act of Congress shall be deemed "fines."

CERTIFICATE OF INCORPORATION GOVERNS

7.7 **Conflicts with Certificate of Incorporation.** In the event of any conflict between the provisions of the corporation's certificate of incorporation and these bylaws, the provisions of the certificate of incorporation shall govern.

ARTICLE VIII
AMENDMENTS

8.1 These bylaws may be altered, amended or repealed, or new bylaws may be adopted 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 regular meeting of the stockholders or of the Board of Directors or at any special meeting of the stockholders or of the Board of Directors if notice of such alteration, amendment, repeal or adoption of new bylaws be contained in the notice of such special meeting. If the power to adopt, amend or repeal bylaws is conferred upon the Board of Directors by the certificate of incorporation, it shall not divest or limit the power of the stockholders to adopt, amend or repeal bylaws.

ARTICLE IX
RIGHT OF FIRST REFUSAL

9.1 In addition to the applicable restrictions set forth in Section 6.4 of Article VI hereof, no stockholder shall sell, assign, pledge, or in any manner transfer any of the shares of Common Stock of the corporation or any right or interest therein (excluding, however, any Preferred Stock of the corporation and any Common Stock issued upon the conversion of such Preferred Stock), whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the requirements hereinafter set forth in this Article IX:

(a) *Notice of Proposed Transfer*. If the stockholder desires to sell or otherwise transfer any of his shares of Common Stock, then the stockholder shall first give written notice thereof to the corporation. The notice shall name the proposed transferee and state the number of shares to be transferred, the proposed consideration and all other terms and conditions of the proposed transfer.

(b) *Corporate Option to Purchase*. For forty-five (45) days following receipt of such notice, the corporation shall have the option to purchase all or any part of the shares specified in the notice at the price and upon the terms set forth in such notice. In the event the corporation elects to purchase all the shares, it shall give written notice to the selling stockholder of its election and settlement for said shares shall be made as provided below in paragraph (d).

(c) *Stockholder Option to Purchase*. In the event the corporation does not elect to acquire all of the shares specified in the selling stockholder's notice, the corporation may, at its discretion, within forty-five (45) days of receipt of said selling stockholder's notice, give written notice thereof to other stockholders of the corporation other than the selling stockholder. Said written notice shall state the number of shares that the corporation has elected to purchase (if any) and the number of shares remaining available for purchase (which shall be the same as the number contained in said selling stockholder's notice, less any such shares that

the corporation has elected to purchase). Each of the other stockholders shall have the option to purchase that proportion of the shares available for purchase as the number of shares owned by each of said other stockholders (calculated on an as-converted basis) bears to the total issued and outstanding shares of the corporation (calculated on an as-converted basis), excepting those shares owned by the selling stockholder. A stockholder electing to exercise such option shall, within ten (10) days after receipt of the corporation's notice, give notice to the corporation specifying the number of shares such stockholder will purchase. Within such ten (10) day period, each of said other stockholders shall give written notice stating how many additional shares such stockholder will purchase if additional shares are available. Failure to respond in writing to the notice given by the corporation within such ten (10) day period shall be deemed a waiver of such stockholder's right to acquire its proportionate part of the shares of the selling stockholder. In the event one or more stockholders do not elect to acquire the shares available to them, said shares shall be allocated on a pro rata basis to the stockholders who requested shares in addition to their pro rata allotment.

(d) *Closing of Corporate or Stockholder Purchase.* In the event the corporation and/or stockholders, other than the selling stockholder, elect to acquire any of the shares of the selling stockholder as specified in said selling stockholder's notice, the corporation shall so notify the selling stockholder and settlement thereof shall be made in cash within thirty (30) days after the corporation receives said selling stockholder's notice; provided that if the terms of payment set forth in said selling stockholder's notice were other than cash against delivery, the corporation and/or its other stockholders shall pay for said shares on the same terms and conditions set forth in said selling stockholder's notice.

(e) *Sale by Selling Stockholder.* In the event the corporation and/or its other stockholders do not elect to acquire all of the shares specified in the selling stockholder's notice, said selling stockholder may, within the thirty (30) day period following the expiration of the option rights granted to the corporation and other stockholders herein, sell elsewhere the shares specified in said selling stockholder's notice which were not acquired by the corporation and/or its other stockholders, in accordance with the provisions of paragraph (d) of this Section 9.1, provided that said sale shall not be on terms and conditions more favorable to the purchaser than those contained in said selling stockholder's notice. All shares so sold by said selling stockholder shall continue to be subject to the provisions of this bylaw in the same manner as before said transfer. Notwithstanding the foregoing, (i) unless and until the corporation and/or its other stockholders have elected not to purchase the shares, no stockholder shall enter into a legally binding obligation to sell, transfer or assign the shares to a third party, and (ii) the selling stockholder shall comply and abide by any confidentiality obligations it has with the corporation.

(f) *Permitted Transactions.* Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the provisions of this bylaw:

(1) A stockholder's transfer of any or all shares held either during such stockholder's lifetime or on death by will or intestacy to such stockholder's immediate family or to any custodian or trustee for the account of such stockholder or such stockholder's immediate family. "Immediate family" as used herein shall mean spouse, lineal descendant, father, mother, brother, or sister of the stockholder making such transfer;

(2) A stockholder's bona fide pledge or mortgage of any shares with a commercial lending institution, provided that any subsequent transfer of said shares by said institution shall be conducted in the manner set forth in this bylaw;

(3) A stockholder's transfer of any or all of such stockholder's shares to the corporation;

(4) A stockholder's transfer of any or all of such stockholder's shares to a person who at the time of such transfer is an officer or director of the corporation;

(5) A corporate stockholder's transfer of any or all of its shares pursuant to and in accordance with the terms of any merger, consolidation, reclassification of shares or capital reorganization of the corporate stockholder or pursuant to a sale of all or substantially all of the stock or assets of a corporate stockholder;

(6) A corporate stockholder's transfer of any or all of its shares to any or all of its stockholders;

(7) A transfer by a stockholder which is a limited or general partnership to any or all of its partners or former partners; or

(8) A distribution by INBONE Technologies, Inc. ("INBONE") of the shares of Series 1 Common Stock held by INBONE to the stockholders of INBONE.

In any such case, the transferee, assignee or other recipient shall receive and hold such stock subject to the provisions of this bylaw, and there shall be no further transfer of such stock except in accord with this bylaw.

(g) *Waiver of Right of First Refusal*. The provisions of this bylaw may be waived with respect to any transfer either by the corporation upon duly authorized action of the Board of Directors, or by the stockholders upon the express written consent of the owners of a majority of the voting power of the corporation (excluding the votes represented by those shares to be transferred by the transferring stockholder). This bylaw may be amended or repealed either by a duly authorized action of the Board of Directors or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the corporation.

(h) *Void Transfers*. Any sale or transfer, or purported sale or transfer, of securities of the corporation shall be null and void unless the terms, conditions and provisions of this bylaw are strictly observed and followed.

(i) *Termination of Right of First Refusal*. The foregoing right of first refusal shall terminate on either of the following dates, whichever shall first occur:

(1) Upon the date of (i) the consummation of the corporation's first firm commitment underwritten public offering of its common stock registered under the Securities Act of 1933, as amended or (ii) the consummation of a Liquidation Event, as that term is defined in the Company's Restated Certificate of Incorporation (as amended from time to time).

(j) *Legends*. The certificates representing shares of stock of the corporation shall bear on their face the following legend so long as the foregoing right of first refusal remains in effect:

"THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A RIGHT OF FIRST REFUSAL OPTION IN FAVOR OF THE CORPORATION AND/OR ITS ASSIGNEE(S), AS PROVIDED IN THE BYLAWS OF THE CORPORATION."

ARTICLE X
LOANS TO OFFICERS

10.1 The corporation may lend money to, or guarantee any obligation of or otherwise assist any officer or other employee of the corporation or of its subsidiaries, including any officer or employee who is a director of the corporation or its subsidiaries, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the corporation. The loan, guarantee or other assistance may be with or without interest and may be unsecured or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing in these bylaws shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

ARTICLE XI
RECORDS AND REPORTS

11.1 The application and requirements of Section 1501 of the California General Corporation Law are hereby expressly waived to the fullest extent permitted thereunder.

CERTIFICATE OF SECRETARY OF

SI-BONE, INC.

The undersigned, Robert E. Johnson, hereby certifies that he is the duly elected and acting Secretary of **SI-BONE, Inc.**, a Delaware corporation (the "Corporation"), and that the Bylaws attached hereto constitute the Second Amended and Restated Bylaws of said Corporation as duly adopted at a meeting of the Corporation's Board of Directors on March 20, 2014.

IN WITNESS WHEREOF, the undersigned has hereunto subscribed his name this 20th day of March, 2014.

/s/ Robert E. Johnson

Robert E. Johnson, Secretary