BOVIE MEDICAL Corp
Form 424B7
November 09, 2016
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Filed pursuant to Rule 424(b)(7)
Registration Statement No. 333-203422

The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated November 9, 2016

Preliminary Prospectus Supplement

(To Prospectus dated April 24, 2015)

Shares

BOVIE MEDICAL CORPORATION

Common Stock

$ per share

The Selling Stockholders are offering shares.

The last reported sale price for our common stock on November 8, 2016, was $4.70 per share. Trading symbol: NYSE MKT BVX.

This investment involves risk. See Risk Factors beginning on page S-9.

	Per Share	Total
Public offering price	$	$
Underwriting discount(1)	$	$

(1) The selling stockholders have granted the underwriter an option for a period of 30 days to purchase an additional shares of our common stock to cover any over-allotments. See Underwriting beginning on page S-22 for additional information regarding total underwriter compensation.

Concurrently with the sale of shares of our common stock under this prospectus supplement, Bovie Medical Corporation (the Company) is selling shares of its common stock under another prospectus supplement, as more fully described herein.

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

Piper Jaffray

The date of this prospectus supplement is November , 2016

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Prospectus Supplement

Prospectus

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 (Registration File No. 333-203422) that we filed with the Securities and Exchange Commission (SEC) for the resale by the selling stockholders as identified in the Selling Stockholders section beginning on page S-19 (the Selling Stockholders) in this prospectus supplement of up to shares of common stock. Each share of Series B Convertible Preferred Stock is convertible into two shares of common stock. All of the shares, when sold, will be sold by these Selling Stockholders.

This document is in two parts. The first part is the prospectus supplement, including the documents incorporated by reference, which describe the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus supplement, we are referring to both parts of this document combined. We urge you to carefully read this prospectus supplement and the accompanying prospectus, and the documents incorporated herein and therein, before buying any of the securities being offered under this prospectus supplement. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We have not, and the underwriter has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriter is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled Where You Can Find Additional Information and Incorporation of Certain Information by Reference.

No action is being taken in any jurisdiction outside the United States to permit a public offering of the common stock or possession or distribution of this prospectus supplement or the accompanying prospectus in that jurisdiction. Persons who come into possession of this prospectus supplement or the accompanying prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus supplement or the accompanying prospectus applicable to that jurisdiction.

Concurrently with the sale of shares of our common stock by the Selling Stockholders under this prospectus supplement, the Company is selling shares of its common stock under another prospectus supplement, offered pursuant to Registration Statement No. 333-193263, or the 2014 Registration Statement, and the prospectus dated December 16, 2014 included therein, or the 2014 Base Prospectus (such offering, the Concurrent Offering). As part of the Concurrent Offering, the Company granted the underwriter an option for a period of thirty (30) days to purchase

up to an additional shares of our common stock.

As used in this prospectus supplement, Bovie, we, our the Company and us refer to Bovie Medical Corporation, unless stated otherwise or the context requires otherwise.

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary may not contain all the information that you should consider before investing in our common stock. You should read the entire prospectus supplement and the accompanying prospectus carefully, including Risk Factors contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein and the financial statements incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment decision. This prospectus supplement may add to, update or change information in the accompanying prospectus.

Our Company

Bovie Medical Corporation (Company , Bovie Medical , we , us , or our) was incorporated in 1982, under the laws State of Delaware and has its principal executive office at 4 Manhattanville Road, Suite #106, Purchase, New York 10577.

We are an energy-based medical device company specializing in developing, manufacturing, and marketing a range of electrosurgical products and technologies, as well as related medical products used in doctor s offices, surgery centers and hospitals worldwide. Our medical devices are marketed through Bovie s own well-respected brands (Bovie®, IDS and ICON) and on a private label basis to distributors throughout the world. The Company also leverages its expertise in the design, development and manufacturing of electrosurgical equipment by producing equipment for large, well-known medical device manufacturers through original equipment manufacturing (OEM) agreements, as well as start-up companies with the need for our energy based designs.

We are also the developer of J-Plasma®; a patented helium-based plasma surgical product which we believe has the potential to be a transformational product for surgeons. J-Plasma® has FDA clearance for the cutting, coagulation, and ablation of soft tissue. The J-Plasma® system consists of an electrosurgical generator unit (ESU), a hand piece and a supply of helium gas. Radiofrequency (RF) energy is delivered to the hand piece by the ESU and used to energize an electrode. When helium gas is passed over the energized electrode, a helium plasma is generated which allows for conduction of the RF energy from the electrode to the patient in the form of a precise helium plasma beam. The energy delivered to the patient via the helium plasma beam is very precise and cooler in temperature in comparison to other surgical energy modalities such as standard RF monopolar energy. While currently in the early stages of commercialization, J-Plasma has been the subject of ten white papers and has been cited therein for its clinical utility in gynecological and plastic surgery procedures.

Significant Subsidiaries

Aaron Medical Industries, Inc. is a wholly-owned Florida corporation based in Clearwater, Florida. It is principally engaged in the business of marketing our medical products.

Bovie Bulgaria, EOOD is a wholly-owned limited liability company incorporated under Bulgarian law, located in Sofia, Bulgaria. It is engaged in the business of engineering and manufacturing our electrosurgical and OEM products.

Industry

Healthcare reform has caused consolidation among providers, with hospitals merging, physician practices joining hospitals, and institutions combining to form Accountable Care Organizations, to manage patients on an

interdisciplinary basis. Although the medical device industry can be challenging and very competitive, we believe it will continue to have a positive, long-term growth trajectory with the number of surgical procedures performed increasing annually as a result of the aging baby boomer population and other healthcare trends.

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Additionally, we also anticipate a continued increase in minimally invasive surgical procedures due to ongoing advancements in technology coupled with continued overall pressure to reduce healthcare costs via a reduction in patient trauma and recovery time. Expanding global markets will also continue to provide growth opportunities for the medical device industry.

We believe that Bovie Medical has sustainable, competitive advantages in the medical device market for several reasons. We have a long history in electrosurgery. In fact, our inspiration dates back to the first use of an electrosurgical generator in an operating room in the U.S. in 1926 where Dr. William T. Bovie was present. Thus, the Bovie name is recognized by surgeons the world over for having pioneered the electrosurgery field and is recognized for its outstanding product quality supported by strong engineering and research and development capabilities. This history equates to very strong recognition of the Bovie brand. In fact, the word Bovie has become synonymous with all instruments used to deliver electrosurgical energy in the operating room. We believe that our equipment and devices have and will continue to provide better experiences for patients at a lower cost to the healthcare system.

Business Strategy

Our objective is to achieve profitable, sustainable growth by increasing our market share in the advanced energy category, including the commercialization of products that have the potential to be transformational with respect to the results they produce for surgeons and patients. In order to achieve this objective, we plan to leverage our long history in the industry, along with the reputation for quality and reliability that the Bovie brand enjoys within the medical community. At the same time, we will expand our products beyond radio frequency, move forward with research and developments projects aimed at creating value within our existing product portfolio and build our pipeline of new complementary products and utilize multiple channels to bring new and existing products to market.

We are working to build our position in advanced electrosurgical generators and disposables, which can be used in diversified niche markets with minimally invasive surgical instruments, while furthering our status as a pioneer in plasma technology and its various medical applications.

Our J-Plasma product initially received FDA clearance in 2012, and a CE mark in December, 2014, which enables us to sell the product in Europe. In 2014, we brought together a new management team and created and trained a direct sales force dedicated to J-Plasma®. In 2015, we continued the commercialization process for J-Plasma with a multi-faceted strategy designed to accelerate adoption of the product. This strategy primarily involved deployment of a dedicated sales force, extending and customizing the J-Plasma® product line and expanding the surgical specialties in which J-Plasma® can become the standard of care for certain procedures.

As of September 30, 2016, we had a direct sales force consisting of 14 field-based selling positions, and that, coupled with our independent manufacturer s representatives, gives us a total sales force of 42. This is a hospital focused selling organization with its focus on the use of J-Plasma® for operating room procedures.

Additionally, we launched seven new J-Plasma hand piece configurations and the Bovie Ultimate generator, which combines J-Plasma functionality with standard electrosurgery modes in one generator. The J-Plasma® product line has been recognized by the Society of Laparoendoscopic Surgeons (SLS) as an Innovative Product of the Year for three years in a row. The Precise 360 was recognized in 2016, The Bovie Ultimate generator was recognized in 2015, and the J-Plasma® Pistol Grip was recognized in 2014. As a result of our sales, marketing and product development initiatives in 2016 and 2015, we have significantly increased the number of surgeons using the product, gained approvals for the sale of J-Plasma® from Hospital Value Analysis Committees and signed agreements for the use of J-Plasma® by the members of Group Purchasing Organizations that serve the medical community.

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In order to assist us in leveraging J-Plasma s precision and effectiveness in multiple surgical specialties, we launched a Medical Advisory Board in 2015 currently comprised of surgeons who are recognized leaders in urology, cardiovascular and cardiothoracic surgery.

We are continuing to make substantial investments in the development and marketing of our J-Plasma technology for the long term benefit of the Company and its stakeholders and this may adversely affect our short term profitability and cash flow, particularly over the next 12 to 24 months. While we believe that these investments have the potential to generate additional revenues and profits in the future, there can be no assurance that J-Plasma will be successful or that such future revenues and profitability will be realized. From June of 2010 through December 31, 2014, we invested approximately $5.5 million in the development and marketing of our J-Plasma technology and an additional approximately $5.5 million in 2015, bringing the total investment to approximately $11.0 million since inception.

Company Products

We group our products into three main categories: electrosurgery, cauteries, and other products. Information regarding sales by product categories and related percentages can be found in our annual and quarterly reports filed with the SEC. We manufacture and market various medical products, both under private label and the Bovie brands (Bovie, IDS, ICON and DERM), to distributors worldwide. Additionally, Bovie has original equipment manufacturing (OEM) agreements with other medical device manufacturers. These OEM and private label arrangements and our use of the Bovie brands enable us to gain greater market share for the distribution of our products.

Advanced Energy Products

J-Plasma Products

BOVIE ULTIMATE

In March 2015, we launched The Bovie® Ultimate generator. The Bovie Ultimate is a high frequency electrosurgical generator that can be used for delivery of RF energy and/or helium gas plasma to cut, coagulate and ablate soft tissue during open and laparoscopic surgical procedures. The generator offers users monopolar, bipolar and J-Plasma features in a single generator. It has both FDA clearance and CE Mark.

J-Plasma Disposable Portfolio

We offer different hand pieces for open and laparoscopic procedures. The helium-based plasma generated from these devices have been shown to cause less thermal damage to tissue than CO_2 laser, argon plasma and RF energy products currently available on the market. The technology has a general indication and can be used for cutting, coagulating and ablating soft tissue. The two primary specialties that are targeted in phase one of the product launch are gynecology and plastic surgery. However, given the wide range of tissue applications for J-Plasma, we are now engaged in ongoing development to create products for oncology, urology, cardiovascular, and cardiothoracic procedures. The advantages of helium plasma continue to be studied throughout the medical and scientific communities. We believe that surgical applications are just one area of opportunity for this technology.

In September of 2015, we expanded our offering of laparoscopic hand pieces by introducing the J-Plasma Precise configurations to the market. In March 2016, we launched the Precise 360 as our seventh new hand piece configuration. These new configurations expand the procedure base for J-Plasma by providing surgeons with the tools they need to access additional anatomic locations.

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Other Advanced Energy Products

Bovie has added its second product to the growth portfolio, PlazXact. This product is a Bipolar RF Ablator for orthopedic joint surgery. The ablators are sterile, single-use devices for the cutting, coagulating and ablation (vaporizing) of soft tissue. The patented, wedge-shaped electrode gives unmatched access and visibility. The design also enables the surgeon to use the product at lower power level to achieve ablation. This reduces the risk of inadvertent burns due to the lower temperatures of fluid in the joints. The ablators have patented design features that make them highly efficient and therefore do not require use with specialized high-powered generators. Bovie s Ablators can be used with most standard electrosurgical generator already present in all operating rooms. PlazXact is the only orthopedic ablator in the market with no dedicated capital equipment required.

Electrosurgery Products

Electrosurgery is our largest product line and includes desiccators, generators, electrodes, electrosurgical pencils and various ancillary disposable products. These electrosurgical products are used during surgical procedures in gynecology, urology, plastic surgery, dermatology, veterinary, and other surgical markets for the cutting and coagulation of tissue. It is estimated that 80% of all surgical procedures performed worldwide are conducted by electrosurgery. Our electrosurgery products fall under two categories, monopolar and bipolar. Monopolar products require the use of a grounding pad attached to the patient for the return of the electrical current, while bipolar products consist of two electrodes; one for the inbound current and one for the return current and therefore do not require the use of a grounding pad.

DERM101 and DERM 102

These effective and economical 10 watt high frequency desiccators provide a low wattage platform for minor in-office skin procedures. We designed these products specifically for family practice physicians, pediatricians and other general practitioners, enabling them to perform simple skin procedures in their offices instead of referring the patient to a specialist saving the patient time and providing additional revenue generating procedures for the physician.

Aaron 940/ Aaron 950 / Aaron 1250U

The Aaron 940 is a Bovie developed, low powered 40-watt high frequency desiccator designed primarily for dermatology and family practice physicians. The units are used mainly for removing small skin lesions and growths as well as for coagulation for office based procedures.

The Aaron 950 is a 60-watt high frequency desiccator with the added feature of a cut capacity for outpatient surgical procedures. In effect, the 950 is two independent surgical devices in one small package. It is designed mainly for use in doctors offices and is utilized in a broad range of specialties including dermatology, gynecology, family practice, urology, plastic surgery and ophthalmology.

The Aaron 1250U is a 120-watt multipurpose electrosurgery generator. The unit features monopolar and bipolar functions with pad sensing. This product is considered to be ideally suited for office-based procedures in the specialties of gynecology, plastic surgery and urology.

Aaron 2250 /2350/ 3250/3350 and IDS 200 /210/ 300 /310 400

To address market demand for more powerful electrosurgical generators, Bovie developed 200, 300 and 400-watt multipurpose digital electrosurgery generators designed for the rapidly expanding surgi-center market and the hospital

outpatient and inpatient markets. This equipment includes digital hardware that enables very high parallel data processing throughout the operation or procedure. All data is sampled and processed digitally. For

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the first time in electrosurgery, surgeons are able to measure tissue impedance in real time (5,000 times a second) thanks to the utilization of digital technology. The design of these units is based on a digital feedback system. By using dedicated digital hardware in place of a general purpose controller for processing data, our equipment enables the power to be adjusted as the impedance varies, to deliver a consistent clinical effect.

The IDS 200/Aaron 2250 are 200-watt generators that have the capability to be used in the majority of procedures performed today in surgi-center or outpatient settings. Although 200 watts is adequate to do most procedures in the operating room, 300 watts is considered the standard and believed to be what most hospitals and surgi-centers will require. To meet this requirement, we developed the IDS 300/ Aaron 3250.

IDS 310/210 and Bovie OR|Pro A3350 and Surgicenter Pro A2350 are the next generation of surgi-center and operating room generators. These units incorporate the best features of the IDS 300 and upgrade its capabilities by providing additional bipolar options, including the 225-watt Bovie bipolar and an auto bipolar feature. The 300 watt units also offer the capability to utilize two pencils with simultaneous activation in fulguration mode.

The Bovie IDS 400 is a 400-watt generator designed primarily for sale in markets outside of the United States. These units feature both monopolar and bipolar functions, have pad and tissue sensing, and include nine blended cutting settings.

Electrosurgical Disposables

Resistick II

Resistick II is a trademarked and proprietary coating that is applied to stainless steel that resist eschar (scab or scar tissue caused by burning) during surgery. We have experienced strong demand for this product since its introduction in 2011, and it represents our continued expansion of the Bovie line of electrosurgical disposables.

Disposable Laparoscopic Electrodes

We have introduced a line of disposable laparoscopic electrodes in Resistick coated and stainless steel for use by physicians from a broad group of specialties including gynecology, general surgery and urology. These electrodes are offered in J-hook, L-hook, needle, ball and spatula design and have an adapter included which makes these laparoscopic electrodes usable with a 3/32 or 4mm plug.

Cauteries

Battery Operated Cauteries

Battery operated cauteries constitute our second largest product line. Cauteries were originally designed for precise hemostasis (to stop bleeding) in ophthalmology. The current use of cauteries has been substantially expanded to include a broad range of applications. Battery operated cauteries are primarily sterile one-time use products. We have continued to improve our offering and now have a snap design cautery which has a patent pending. It features a switch mechanism that dramatically reduces the potential for accidental activation. We manufacture one of the broadest lines of cauteries in the world, including but not limited to, a line of replaceable battery and replaceable tip cauteries, which are popular in veterinary and overseas markets.

Other Products

Battery Operated Medical Lights

We manufacture and market a variety of specialty lighting instruments for use in ophthalmology as well as distribute specialty lighting instruments for general surgery, hip replacement surgery and for the placement of endotracheal tubes in emergency and surgical procedures. We also manufacture and market physicians office use penlights used in physician offices.

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Nerve Locator Stimulator

We manufacture a nerve locator stimulator primarily used for identifying motor nerves in hand and facial reconstructive surgery. This instrument is a sterile, self-contained, battery-operated unit, for one time use.

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THE OFFERING

Common stock offered by the Selling Stockholders in this offering	shares
Common stock offered the Company in the Concurrent Offering	shares
Common stock to be outstanding after completion of this offering and the Concurrent Offering	shares
Use of proceeds	We will not receive any proceeds from the sale of the shares of common stock by the Selling Stockholders under this prospectus supplement.
NYSE MKT symbol	BVX
Risk factors	Investing in our common stock involves a high degree of risk. See Risk factors beginning on page S-9 of this prospectus supplement and page 5 of the accompanying prospectus and under Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015 that is incorporated by reference into this prospectus supplement.

The number of shares of common stock to be outstanding immediately after this offering and the Concurrent Offering as shown above is based on 27,142,218 shares of common stock outstanding as of September 30, 2016. The number of outstanding shares excludes, as of September 30, 2016:

- 3,318,447 shares of our common stock reserved for issuance upon the exercise of outstanding stock options;
- 254,375 shares of our common stock reserved for issuance pursuant to outstanding common stock purchase warrants; and
- 3,951,278 shares of our common stock reserved for issuance upon conversion of our shares of Series B Convertible Preferred Stock. Each share of Series B Convertible Preferred Stock is convertible into two shares of common stock.

Concurrent Offering

Concurrently with the sale of shares of our common stock by the Selling Stockholders under this prospectus supplement, the Company is selling shares of our common stock under another prospectus supplement in the Concurrent Offering. As part of the Concurrent Offering, the Company granted the underwriter an option for a period of thirty (30) days to purchase up to an additional shares of our common stock.

Unless otherwise indicated, all information in this prospectus supplement assumes that the underwriter does not exercise their over-allotment option in this offering or the Concurrent Offering.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, the documents incorporated by reference herein and therein, and any free writing prospectus that we have authorized for use in connection with this offering contain forward-looking statements within the meaning of Section 27A of the Securities Act regarding our business, financial condition, results of operations and prospects. Words such as expects, anticipates, intends, plans, believes, seeks, estimates and similar expressions or variations of such words are intended to identify forward-looking statements. However, these are not the exclusive means of identifying forward-looking statements. Although forward-looking statements contained in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference herein and therein, and any free writing prospectus that we have authorized for use in connection with this offering, reflect our good faith judgment, such statements can only be based on facts and factors currently known to us. Consequently, forward-looking statements are inherently subject to risks and uncertainties, and actual outcomes may differ materially from the results and outcomes discussed in the forward-looking statements. Further information about the risks and uncertainties that may impact us are described or incorporated by reference in Risk Factors below and in the documents incorporated by reference herein. You should read carefully the risk factors incorporated by reference and set forth herein. You should not place undue reliance on forward-looking statements, which speak only as of the date of this prospectus supplement. We undertake no obligation to update publicly any forward-looking statements in order to reflect any event or circumstance occurring after the date of this prospectus supplement or currently unknown facts or conditions or the occurrence of unanticipated events.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and all other information contained in this prospectus supplement and the accompanying prospectus, including the risk factors in the section entitled Risk Factors in the accompanying prospectus and in the documents incorporated by reference herein and therein. You should also refer to the other information in this prospectus supplement and the accompanying prospectus, including our financial statements and the related notes incorporated by reference in this prospectus supplement and the accompanying prospectus.

Risks Related to Our Industry

The medical device industry is highly competitive and we may be unable to compete effectively.

The medical device industry is highly competitive. Many competitors in this industry are well-established, do a substantially greater amount of business, and have greater financial resources and facilities than we do.

Domestically, we believe we rank third in the number of units sold in the field of electrosurgical generator manufacturing and we sell our products and compete with other manufacturers in various ways. In addition to advertising, attending trade shows and supporting our distribution channels, we strive to enhance product quality and functionality, improve user friendliness, and expand product exposure.

We have also invested, and continue to invest, substantial resources to develop and monetize our J-Plasma technology. If we are unable to gain acceptance in the marketplace of J-Plasma, our business and results of operations may be materially and adversely affected. From June of 2010 through December 31, 2015, we have invested approximately $11.0 million in the development and marketing of our J-Plasma technology.

We also compete by private labeling our products for major distributors under their label. This allows us to increase our position in the marketplace and thereby compete from two different approaches, our Aaron or Bovie label, and our customers private label. Our private label customers distribute our products under their name through their internal sales force. We believe our main competitors do not private label their products.

Lastly, at this time we sell the majority of our products through distributors. Many of the companies we compete with sell direct, thus competing directly with distributors they sometimes use.

Our industry is highly regulated by the U.S. Food and Drug Administration and international regulatory authorities, as well as other governmental, state and federal agencies which have substantial authority to establish criteria which must be complied with in order for us to continue in operation.

United States

Our products and research and development activities are subject to regulation by the FDA and other regulatory bodies. FDA regulations govern, among other things, the following activities:

- Product development

Product testing

Product labeling

Product storage

Pre-market clearance or approval

Advertising and promotion

Product traceability, and

Product indications.

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In the United States, medical devices are classified on the basis of control deemed necessary to reasonably ensure the safety and effectiveness of the device. Class I devices are subject to general controls. These controls include registration and listing, labeling, pre-market notification and adherence to the FDA Quality System Regulation. Class II devices are subject to general and special controls. Special controls include performance standards, post market surveillance, patient registries and FDA guidelines. Class III devices are those which must receive pre-market approval by the FDA to ensure their safety and effectiveness. Currently, we only manufacture Class I and Class II devices. Pre-market notification clearance must be obtained for some Class I and most Class II devices when the FDA does not require pre-market approval. All of our products have been cleared by, or are exempt from, the pre-market notification process.

A pre-market approval application is required for most Class III devices. A pre-market approval application must be supported by valid scientific evidence to demonstrate the safety and effectiveness of the device. The pre-market approval application typically includes:

- Results of bench and laboratory tests, animal studies, and clinical studies
- A complete description of the device and its components; and
- A detailed description of the methods, facilities and controls used to manufacture the device, and proposed labeling.

The pre-market approval process can be expensive, uncertain and lengthy. A number of devices for which pre-market approval has been sought by other companies have never been approved for marketing.

International Regulation

To market products in the European Union, our products must bear the CE mark. Manufacturers of medical devices bearing the CE mark have gone through a conformity assessment process that assures that products are manufactured in compliance with a recognized quality system and to comply with the European Medical Devices Directive.

Each device that bears a CE mark has an associated technical documentation that includes a description of the following:

- Description of the device and its components,
- A Summary of how the device complies with the essential requirements of the medical devices directive,
- Safety (risk assessment) and performance of the device,
- Clinical evaluations with respect to the device,

Methods, facilities and quality controls used to manufacture the device, and

Proposed labeling for the device.

Manufacturing and distribution of a device is subject to ongoing surveillance by the appropriate regulatory body to ensure continued compliance with quality system and reporting requirements.

We began CE marking of devices for sale in the European Union in 1999. In addition to the requirement to CE mark, each member country of the European Union maintains the right to impose additional regulatory requirements.

Outside of the European Union, regulations vary significantly from country to country. The time required to obtain approval to market products may be longer or shorter than that required in the United States or the European Union. Certain European countries outside of the European Union do recognize and give effect to the CE mark certification. We are permitted to market and sell our products in those countries.

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If we are unable to successfully introduce new products or fail to keep pace with competitive advances in technology, our business, financial condition and results of operations could be adversely affected. In addition, our research and development efforts rely upon investments and alliances, and we cannot guarantee that any previous or future investments or alliances will be successful.

Our research and development activities are an essential component of our efforts to develop new and innovative products for introduction in the marketplace. New and improved products play a critical role in our sales growth. We continue to place emphasis on the development of proprietary products, such as our J-Plasma technology, and product improvements to complement and expand our existing product lines. We maintain close working relationships with physicians and medical personnel in hospitals and universities who assist in product research and areas of development. Our research and development activities are primarily conducted internally and are expensed as incurred. These expenses include direct expenses for wages, materials and services associated with the development of our products net of any reimbursements from customers. Research and development expenses do not include any portion of general and administrative expenses. Our Clearwater, Florida facility has been our flagship research and design location. We expect to continue making future investments to enable us to develop and market new technologies and products to further our strategic objectives and strengthen our existing business. However, we cannot guarantee that any of our previous or future investments will be successful or that our new products such as J-Plasma, will gain market acceptance, the failure of which would have a material adverse effect on our business and results of operations.

The amount expended by us on research and development of our products during the years 2015, 2014, and 2013, totaled approximately $2.1, $1.4, and $1.3 million, respectively. During the past three years, we invested substantial resources in the development and marketing of our J-Plasma technology. We have not incurred any direct costs relating to environmental regulations or requirements. For 2016, we expect the amount of our expenditures for research and development activities to increase modestly when compared to 2015.

Even if we are successful in developing and obtaining approval for our new product candidates, there are various circumstances that could prevent the successful commercialization of the products.

Our ability to successfully commercialize our products will depend on a number of factors, any of which could delay or prevent commercialization, including:

- the regulatory approvals of our new products are delayed or we are required to conduct further research and development of our products prior to receiving regulatory approval;
- we are unable to build a sales and marketing group to successfully launch and sell our new products;
- we are unable to raise the additional funds needed to successfully develop and commercialize our products or acquire additional products for growth;
- we are required to allocate available funds to litigation matters;

we are unable to manufacture the quantity of product needed in accordance with current good manufacturing practices to meet market demand, or at all;

our product is determined to be ineffective or unsafe following approval and is removed from the market or we are required to perform additional research and development to further prove the safety and effectiveness of the product before re-entry into the market;

competition from other products or technologies prevents or reduces market acceptance of our products;

we do not have and cannot obtain the intellectual property rights needed to manufacture or market our products without infringing on another company s patents; or

we are unsuccessful in defending against patent infringement or other intellectual property rights, claims that could be brought against us, our products or technologies;

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The failure to successfully acquire or develop and commercialize new products will have a material and adverse effect on the future growth of our business, financial condition and results of operations.

Our international operations subject us to foreign currency fluctuations and other risks associated with operating in foreign countries.

We operate internationally and enter into transactions denominated in foreign currencies. To date, we have not hedged our exposure to changes in foreign currency exchange rates, and as a result, we are subject to foreign currency transaction and translation gains and losses. We purchase goods and services in U.S. dollars and Euros. Foreign exchange risk is managed primarily by satisfying foreign denominated expenditures with cash flows or assets denominated in the same currency therefore we are subject to some foreign currency fluctuation risk. Our currency value fluctuations were not material for 2015.

Our operations and cash flows may be adversely impacted by healthcare reform legislation.

The Patient Protection and Affordable Care Act and Health Care and Education Affordability Reconciliation Act were enacted into law in the U.S. in March 2010. Among other initiatives, this legislation imposes a 2.3% excise tax on domestic sales of class I, II, and III medical devices beginning in 2013. The Consolidated Appropriations Act, 2016, signed into law on Dec. 18, 2015, includes a two year moratorium on the medical device excise tax imposed by Internal Revenue Code section 4191. Thus, the medical device excise tax does not apply to the sale of a taxable medical device by the manufacturer, producer, or importer of the device during the period beginning on Jan. 1, 2016, and ending on Dec. 31, 2017. Substantially all of our products are class I or class II medical devices and in 2015 and 2014 we paid medical device excise tax of approximately $450,378 and $435,926, respectively. As approximately 83% of our 2015 sales were derived in the U.S. we cannot predict if any additional regulations will be implemented at the federal or state level, or the effect of any future legislation or regulation in the U.S. or internationally.

Our operations may experience higher costs to produce our products as a result of changes in prices for oil, gasoline, and other commodities.

We use some plastics and other petroleum-based materials along with precious metals contained in electronic components as raw materials in many of our products. Prices of oil and gasoline also significantly affect our costs for freight and utilities. Oil, gasoline and precious metal prices are volatile and may increase, resulting in higher costs to produce and distribute our products. Due to the highly competitive nature of the healthcare industry and the cost-containment efforts of our customers we may be unable to pass along cost increases through higher prices. If we are unable to fully recover these costs through price increases or offset through other cost reductions, our results of operations could be materially and adversely affected.

Our manufacturing facilities are located in Clearwater, Florida and could be affected due to multiple risks from fire, hurricanes, physical changes in the planet due to climate change, and similar phenomena.

Our manufacturing facilities are located in Clearwater, Florida and could be affected by multiple weather risks, most notably hurricanes. Although we carry property and casualty insurance and business interruption insurance, future possible disruptions of operations or damage to property, plant and equipment due to hurricanes or other weather risks could result in impaired production and affect our ability to meet our commitments to our customers and impair important business relationships, the loss of which could adversely affect our operations and profitability. We do however maintain a backup generator at our Clearwater facility and a disaster recovery plan is in place to help mitigate this risk.

We do not produce hazardous materials or emissions that would adversely impact the environment. We do however, have air conditioning units and consume electricity which could be impacted by climate change in the form of increased rates. However, we do not believe the increase in expense from any rate increases, as a percentage of sales, would be material in the near term.

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Risks Relating to Our Business

We have historically done a substantial amount of business with seven of our top ten customers, who are also major distributors of our product, which as a group have produced substantial revenues for our Company. Loss of business from a major customer will likely materially and adversely affect our business.

We manufacture the majority of our products on our premises in Clearwater, Florida and in Sofia, Bulgaria. Labor-intensive sub-assemblies and labor-intensive products may be out-sourced to our specification. Although we sell through distributors, we market our products through national trade journal advertising, direct mail, distributor sales representatives and trade shows, under the Bovie name, the Bovie/Aaron name and private label. Major distributors include Cardinal Health, Independent Medical Co-Op Inc. (IMCO), McKesson Medical Surgical, Inc., Medline, National Distribution and Contracting Inc. (NDC), and Owens & Minor. If any of these distributor relationships are terminated or not replaced, our revenue from the territories served by these distributors could be adversely affected.

We are also dependent on OEM customers who have no legal obligation to purchase products from us. Should such customers fail to give us purchase orders for the product after development, our future business and value of related assets could be negatively affected. Furthermore, no assurance can be given that such customers will give sufficient high priority to our products. Finally, disagreements or disputes may arise between us and our customers, which could adversely affect production and sales of our products.

We rely on certain suppliers and manufacturers for raw materials and other products and are vulnerable to fluctuations in the availability and price of such products and services.

Fluctuations in the price, availability, and quality of the raw materials we use in our manufacturing could have a negative effect on our cost of sales and our ability to meet the demands of our customers. Inability to meet the demands of our customers could result in the loss of future sales.

In addition, the costs to manufacture our products depend in part on the market prices of the raw materials used to produce them. We may not be able to pass along to our customers all or a portion of our higher costs of raw materials due to competitive and marketing pressures, which could decrease our earnings and profitability.

We also have collaborative arrangements with three key foreign suppliers under which we request the development of certain items and components and we purchase them pursuant to purchase orders. Our purchase order commitments are never more than one year in duration and are supported by our sales forecasts. The majority of our raw materials are purchased from sole-source suppliers. While we believe we could ultimately procure other sources for these components, should we experience any significant disruptions in this key supply chain, there are no assurances that we could do so in a timely manner which could render us unable to meet the demands of our customers, resulting in a material and adverse effect on our business and operating results.

If we are unable to protect our patents or other proprietary rights, or if we infringe on the patents or other proprietary rights of others, our competitiveness and business prospects may be materially damaged.

We have been issued 32 patents in the United States and 22 foreign patents. We have 16 pending patent applications in the United States and 9 pending foreign applications. Our intellectual property portfolio for the technology and products related to J-Plasma product is included in these totals and continues to grow. Specific to J-Plasma, we have been issued 14 U.S. and 5 foreign patents, and we have 13 U.S. and 6 foreign applications pending. We intend to continue to seek legal protection, primarily through patents, for our proprietary technology. Seeking patent protection

is a lengthy and costly process, and there can be no assurance that patents will be issued from any pending applications, or that any claims allowed from existing or pending patents will be sufficiently broad or strong to protect our proprietary technology. There is also no guarantee that any patents we hold will not be challenged, invalidated or circumvented, or that the patent rights granted will provide competitive advantages to us. Our competitors have developed and may continue to develop and obtain patents

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for technologies that are similar or superior to our technologies. In addition, the laws of foreign jurisdictions in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

Adverse outcomes in current or future legal disputes regarding patent and other intellectual property rights could result in the loss of our intellectual property rights, subject us to significant liabilities to third parties, require us to seek licenses from third parties on terms that may not be reasonable or favorable to us, prevent us from manufacturing, importing or selling our products, or compel us to redesign our products to avoid infringing third parties intellectual property. As a result, our product offerings may be delayed, and we may be unable to meet customers requirements in a timely manner. Regardless of the merit of any related legal proceeding, we have incurred in the past and may be required to incur in the future substantial costs to prosecute, enforce or defend our intellectual property rights. Even in the absence of infringement by our products of third parties intellectual property rights, or litigation related to trade secrets, we have elected in the past and may in the future elect to enter into settlements to avoid the costs and risks of protracted litigation and the diversion of resources and management s attention. However, if the terms of settlements entered into with certain of our competitors are not observed or enforced, we may suffer further costs and risks. Any of these circumstances could have a material adverse effect on our business, financial condition and resources or results of operations.

Our ability to develop intellectual property depends in large part on hiring, retaining and motivating highly qualified design and engineering staff with the knowledge and technical competence to advance our technology and productivity goals. To protect our trade secrets and proprietary information, generally we have entered into confidentiality agreements with our employees, as well as with consultants and other parties. If these agreements prove inadequate or are breached, our remedies may not be sufficient to cover our losses.

We have been and may in the future become subject to litigation proceedings that could materially and adversely affect our business.

Other Litigation

In addition to the litigation risks and proceedings mentioned below, we have recently been involved and may in the future become subject to legal claims or proceedings related to securities, employment, customer or third party contracts, environmental regulations, or other matters. The costs involved in defending these claims have been substantial, which have had an adverse effect on our profitability. In addition, if other claims are asserted against us, we may be required to defend against such claims, or deem it necessary or advisable to initiate a legal proceeding to protect our rights, the expense and distraction of such a claim or proceeding, whether or not resolved in our favor, could materially and adversely affect our business, financial condition and operating results. Further, if a claim or proceeding were resolved against us or if we were to settle any such dispute, we may be required to pay damages and costs or refrain from certain activities, any of which could have a material adverse impact on our business, financial condition and operating results.

Intellectual Property Litigation or Trade Secrets

We have in the past, experienced certain allegations of infringement of intellectual property rights and use of trade secrets and may receive other such claims, with or without merit, in the future. Previously, claims of infringement of intellectual property rights have sometimes evolved into litigation against us, and they may continue to do so in the future. It is inherently difficult to assess the outcome of litigation. Although we believe we have had adequate defenses to these claims and that the outcome of the litigation will not have a material adverse impact on our business, financial condition, or results of operations, there can be no assurances that we will prevail. Any such litigation could

result in substantial cost to us, significantly reduce our cash resources, and create a diversion of the efforts of our technical and management personnel, which could have a material and adverse effect on our business, financial condition and operating results. If we are unable to successfully defend against such claims, we could be prohibited from future sales of the allegedly infringing product or products, which could materially and adversely affect our future growth.

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Product Liability Litigation

Although we carry liability insurance, due to the nature of our products and their use by professionals, we may, from time to time, be subject to litigation from persons who sustain injury during medical procedures in hospitals, physician s offices or in clinics and defending such litigation is expensive, disruptive, time consuming and could adversely affect our business. We currently maintain product liability insurance with combined coverage limits of $10 million on a claims-made basis. There is no assurance that this coverage will be adequate to protect us from any possible liabilities (individually or in the aggregate) we might incur in connection with the sale or testing of our products. In addition, we may need increased product liability coverage as additional products are commercialized. This insurance is expensive and in the future may not be available on acceptable terms, if at all.

Our business is subject to the potential for defects or failures associated with our products which could lead to recalls or safety alerts and negative publicity.

Manufacturing flaws, component failures, design defects, off-label uses or inadequate disclosure of product-related information could result in an unsafe condition or the injury or death of a patient. These problems could lead to a recall of, or issuance of a safety alert relating to our products, and result in significant costs and negative publicity. Due to the strong name recognition of our brands, an adverse event involving one of our products could result in reduced market acceptance and demand for all products within that brand, and could harm our reputation and our ability to market our products in the future. In some circumstances, adverse events arising from or associated with the design, manufacture or marketing of our products could result in the suspension or delay of our current regulatory reviews of our applications for new product approvals. We also may undertake voluntarily to recall products or temporarily shut down certain production lines based on internal safety and quality monitoring and testing data. Any of the foregoing problems could disrupt our business and have a material adverse effect on our business, results of operations, financial condition and cash flows.

We have incurred and may in the future incur impairments to our long-lived assets.

We review our long-lived assets, including intangible assets, for impairment annually or more frequently if events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Additionally, if in any period our stock price decreases to the point where our fair value, as determined by our market capitalization, is less than the book value of our assets, this could also indicate a potential impairment and we may be required to record an impairment charge in that period which could adversely affect our results of operations.

Our valuation methodology for assessing impairment requires management to make judgments and assumptions based on historical experience and to rely heavily on projections of future operating performance. We operate in highly competitive environments and projections of future operating results and cash flows may vary significantly from actual results. Additionally, if our analysis indicates potential impairment to a long-lived intangible asset, we may be required to record additional charges to earnings in our financial statements, which could negatively impact our results of operations.

Risks Related to Our Stock and this Offering

The market price of our stock has been and may continue to be highly volatile.

Our common stock is listed on the NYSE MKT Market under the ticker symbol BVX. The market price of our stock has been and may continue to be highly volatile, and announcements by us or by third parties may have a significant impact on our stock price. These announcements may include:

our listing status on the NYSE MKT Market;

our operating results falling below the expectations of public market analysts and investors;

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developments in our relationships with or developments affecting our major customers;

negative regulatory action or regulatory non-approval with respect to our new products;

government regulation, governmental investigations, or audits related to us or to our products;

developments related to our patents or other proprietary rights or those of our competitors; and

changes in the position of securities analysts with respect to our stock.

The stock market has from time to time experienced extreme price and volume fluctuations, which have particularly affected the market prices for the medical technology sector companies, and which have often been unrelated to their operating performance. These broad market fluctuations may adversely affect the market price of our common stock.

Historically, when the market price of a stock has been volatile, holders of that stock have often instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

In addition, future sales by existing stockholders, warrant holders receiving shares upon the exercise of warrants, or any new stockholders receiving our shares in any financing transaction may lower the price of our common stock, which could result in losses to our stockholders. As described above, in the Concurrent Offering, the Company is selling shares of its common stock under another prospectus supplement offered pursuant to the 2014 Registration Statement and 2014 Base Prospectus. Future sales of substantial amounts of common stock in the public market, or the possibility of such sales occurring, could adversely affect prevailing market prices for our common stock or our future ability to raise capital through an offering of equity securities. Substantially all of our common stock is freely tradable in the public market without restriction under the Securities Act, unless these shares are held by our affiliates , as that term is defined in Rule 144 under the Securities Act.

We have no present intention to pay dividends on our common stock and, even if we change that policy, we may be unable to pay dividends on our common stock.

We currently do not anticipate paying any dividends on our common stock in the foreseeable future. We currently intend to retain future earnings, if any, to finance operations and invest in our business. Any declaration and payment of future dividends to holders of our common stock will be at the discretion of our board of directors and will depend on many factors, including our financial condition, earnings, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that our board of directors deems relevant.

If we change that policy and commence paying dividends, we will not be obligated to continue paying those dividends and our stockholders will not be guaranteed, or have contractual or other rights, to receive dividends. If we commence paying dividends in the future, our board of directors may decide, in its discretion, at any time, to decrease the amount of dividends, otherwise modify or repeal the dividend policy or discontinue entirely the payment of dividends. Under the Delaware law, our board of directors may not authorize the payment of a dividend unless it is either paid out of our statutory surplus.

Investors in this offering will experience immediate and substantial dilution.

The public offering price of the securities offered pursuant to this prospectus supplement is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of common stock in this offering, you will incur immediate and substantial dilution in the pro forma net tangible book value per share of common stock from the price per share that you pay for the common stock.

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The low trading volume of our common stock may adversely affect the price of our shares and their liquidity.

Although our common stock is listed on the NYSE MKT exchange, our common stock has experienced low trading volume. Limited trading volume may subject our common stock to greater price volatility and may make it difficult for investors to sell shares at a price that is attractive to them.

We may in the future seek to raise funds through equity offerings, which could have a dilutive effect on our common stock.

In the future we may determine to raise capital through offerings of our common stock, securities convertible into our common stock or rights to acquire these securities or our common stock. For instance, we are authorized to issue up to 40,000,000 shares of common stock and up to 10,000,000 shares of preferred stock, of which 1,975,639 shares have been designated as Series B Convertible Preferred Stock. The result of sales of such securities (including the sale of our common stock in the Concurrent Offering, as described above), or the conversion of the Series B Convertible Preferred Stock into shares of common stock as contemplated in this offering, or the triggering of anti-dilution provisions in such securities would ultimately be dilutive to our common stock by increasing the number of shares outstanding. We cannot predict the effect this dilution may have on the price of our common stock. In addition, the shares of preferred stock may have rights which are senior or superior to those of the common stock, such as rights relating to voting, the payment of dividends, redemption or liquidation.

Exercise of warrants and options issued by us will dilute the ownership interest of existing stockholders.

As of September 30, 2016, the warrants issued by us in December 2013 were exercisable for up to approximately 254,375 shares of our common stock, representing approximately 0.9% of our outstanding common stock.

As of September 30, 2016, our outstanding stock options to our employees, officers, directors and consultants amounted to approximately 3,818,447 shares of our common stock, representing approximately 13.9% of our outstanding common stock.

The exercise of some or all of our warrants and stock options will dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock.

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USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares of common stock subject to resale by the Selling Stockholders under this prospectus supplement.

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SELLING STOCKHOLDERS

The shares of common stock being offered by the Selling Stockholders consist of shares of common stock owned by the Selling Stockholders and not shares of common stock that are issuable to the Selling Stockholders upon conversion of the shares of Series B Convertible Preferred Stock held by such stockholders. Each share of Series B Preferred Stock is convertible into two shares of common stock.

The Certificate of Designation of Preferences, Rights and Limitations (the Certificate of Designation) of the Series B Preferred Stock provides that a holder of Series B Preferred Stock may not convert any portion of the Series B Preferred Stock to the extent that, after giving effect to such conversion, such holder (together with any person whose beneficial ownership of common stock would be aggregated with such holder under Section 13(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act)), would beneficially own in excess of 9.985% of the common stock outstanding immediately after giving effect to the issuance of shares of common stock (as such percentage may be increased or decreased upon not less than 61 days prior notice to the Company). This maximum beneficial ownership percentage is referred to as the Beneficial Ownership Limitation. The Selling Stockholders disclaim beneficial ownership of such number of shares of common stock the issuance of which would exceed the Beneficial Ownership Limitation.

The table below lists the Selling Stockholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Exchange Act and the rules and regulations thereunder and subject to the Beneficial Ownership Limitation) of the shares of common stock held by each of the Selling Stockholders.

The first column lists the number of shares of common stock beneficially owned by the Selling Stockholders based on their respective ownership of shares of common stock as of September 30, 2016.

The second column lists the number of shares of common stock being offered by this prospectus supplement by the Selling Stockholders.

The third column lists the number of shares of common stock beneficially owned by Selling Stockholders after this offering, based on their respective ownership of shares of common stock as of September 30, 2016, (i) assuming the issuance of shares of common stock by the Company in the Concurrent Offering and (ii) giving effect to the Beneficial Ownership Limitation.

	Beneficial Ownership Before Offering		Total Shares of Common Stock Offered By Selling Stockholder	Beneficial Ownership After Offering	
Selling Stockholder	**Shares**	**Percent**		**Shares[1][8]**	**Percent[1][8]**
Biomedical Value Fund, L.P.[2]	1,286,079[3]	4.732%			%
Biomedical Institutional Value Fund, L.P.[2]	330,738[4]	1.217%			%
Biomedical Offshore Value Fund, Ltd.[2]	719,462[5]	2.647%			%
WS Investments II, LLC[2]	39,858[6]	0.147%			%

Class D Series of GEF-PS, L.P.[2]	337,357[7]	1.241%	%

(1) Assumes that all the shares of common stock covered by this prospectus supplement are sold and that the Selling Stockholders do not acquire any additional shares of common stock before the completion of this offering.

(2) Great Point Partners, LLC (Great Point) is the investment manager of each of Biomedical Institutional Value Fund, L.P., Biomedical Offshore Value Fund, Ltd., Biomedical Value Fund, L.P., Class D Series of GEF-PS, L.P. and WS Investments II, LLC (collectively, the Great Point Selling Stockholders), and has the power to vote or dispose of the shares listed above. Each of Dr. Jeffrey R. Jay, M.D. (Dr. Jay), as senior managing member of Great Point, and Mr. David Kroin (Mr. Kroin), as special managing member of Great Point, has voting and investment power with respect to the shares owned by each of the Great Point Selling Stockholders. Each of Great Point, Dr. Jay and Mr. Kroin disclaims beneficial ownership of such shares except to the extent of their respective pecuniary interest therein. The address for the Great Point Selling Stockholders is 165 Mason Street, 3rd Floor, Greenwich, CT 06830.

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(3) Consists of 1,270,255 shares of common stock and 15,824 shares of common stock issuable upon the conversion of Series B Preferred Stock.
(4) Consists of 326,669 shares of common stock and 4,069 shares of common stock issuable upon the conversion of Series B Preferred Stock.
(5) Consists of 710,610 shares of common stock and 8,852 shares of common stock issuable upon the conversion of Series B Preferred Stock.
(6) Consists of 39,260 shares of common stock and 598 shares of common stock issuable upon the conversion of Series B Preferred Stock.
(7) Consists of 333,206 shares of common stock and 4,151 shares of common stock issuable upon the conversion of Series B Preferred Stock.
(8) If the Beneficial Ownership Limitation were not applicable, after the offering, the Selling Stockholders would beneficially own the following number of shares of common stock (including shares of common stock issuable upon conversion of the Series B Preferred Stock): Biomedical Value Fund, L.P. shares (%), Biomedical Institutional Value Fund, L.P. shares (%), Biomedical Offshore Value Fund, Ltd., shares (%), WS Investments II, LLC shares (%) and Class D Series of GEF-PS, L.P. shares (%) (an aggregate of shares (%)).

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DILUTION

Our net tangible book value of our common stock as of September 30, 2016 was approximately $18,692,067, or approximately $0.69 per share of common stock, based upon 27,142,218 shares outstanding. Net tangible book value per share is equal to our total tangible assets, less our total liabilities, divided by the total number of shares of our common stock outstanding as of September 30, 2016. After giving effect to the sale by the Selling Stockholders of the 6,631,278 shares of our common stock being offered in this offering and the sale of shares of our common stock by us in the Concurrent Offering, our as-adjusted net tangible book value would have been approximately $, or approximately $ per share of common stock. This represents an immediate increase in net tangible book value of $ per share to our existing stockholders and an immediate dilution in net tangible book value of $ per share to new investors. The following table illustrates this calculation on a per share basis:

Public offering price per share		$
Net tangible book value per share as of September 30, 2016	$ 0.69	
Increase in net tangible book value per share attributable to this offering and the Concurrent Offering		
As-adjusted net tangible book value per share after giving effect to this offering and the Concurrent Offering		
Dilution in net tangible book value per share to new investors		$

If the underwriter exercises in full the option to purchase additional shares of common stock from the Selling Stockholders at the public offering price of $ per share, and an additional shares of common stock from the us in the Concurrent Offering, the as-adjusted net tangible book value after this offering and the Concurrent Offering would be $ per share, representing an increase in net tangible book value of $ per share to existing stockholders and immediate dilution in net tangible book value of $ per share to investors purchasing our common stock at the public offering price in this offering and in the Concurrent Offering.

The foregoing table excludes the following, each as of September 30, 2016:

- 3,818,447 shares of our common stock reserved for issuance upon the exercise of outstanding stock options;
- 254,375 shares of our common stock reserved for issuance pursuant to outstanding common stock purchase warrants; and
- 3,951,278 shares of our common stock reserved for issuance upon conversion of our outstanding shares of Series B Convertible Preferred Stock. Each share of Series B Convertible Preferred Stock is convertible into two shares of common stock.

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UNDERWRITING

Piper Jaffray & Co. is the underwriter of this offering and the Concurrent Offering. Subject to the terms and conditions stated in the underwriting agreement dated the date of this prospectus supplement, the underwriter has agreed to purchase in this offering, and we have agreed to sell to the underwriter, the number of shares set forth opposite the underwriter s name.

Underwriter	Number of Shares
Piper Jaffray & Co.	
Total	

The underwriter has advised us that it proposes to offer the shares of common stock to the public at $ per share and to certain dealers at that price less a concession not in excess of $ per share. After the offering, this figure may be changed by the underwriter. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

The Selling Stockholders have granted to the underwriter an option to purchase up to an additional shares of common stock from the Selling Stockholders at the same price to the public, and with the same underwriting discount, as set forth in the table above. The underwriter may exercise this option any time during the 30-day period after the date of this prospectus supplement, but only to cover over-allotments, if any.

The following table shows the underwriting discounts and commissions that the Selling Stockholders are to pay to the underwriter in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriter s option to purchase additional shares.

		Total	
	Per Share	No Exercise	Full Exercise
Per share		$	$
Total		$	

We will receive no proceeds from any sales in this offering. The Selling Stockholders and the Company in the Concurrent Offering have each agreed to indemnify the underwriter against certain liabilities, including civil liabilities under the Securities Act of 1933, as amended, or to contribute to payments that the underwriter may be required to make in respect of those liabilities. The Selling Stockholders and the Company have also agreed to reimburse the underwriter in an amount up to an aggregate of $125,000 for fees incurred by them in connection with this offering and the Concurrent Offering. The Selling Stockholders and the Company s reimbursement obligations will be pro rata to the number of shares being offered by each of the Selling Stockholders and the Company.

We and each of our directors, executive officers and the Selling Stockholders have agreed, subject to certain exceptions, to not to sell additional shares of our common stock for a period of 90 days after the date of this prospectus supplement. We have agreed not to directly or indirectly offer for sale, sell, contract to sell, grant any option for the sale of, or otherwise issue or dispose of, any shares of common stock, options or warrants to acquire shares of common stock, or any related security or instrument, without the prior written consent of Piper Jaffray & Co.

The shares of our common stock are listed on the NYSE MKT Market under the symbol BVX .

To facilitate this offering and the Concurrent Offering, the underwriter may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock during and after the offering. Specifically, the underwriter may over-allot or otherwise create a short position in the common stock for its own account by selling more shares of common stock than have been sold to it by the Selling Stockholders and us in the Concurrent Offering. The underwriter may elect to cover any such short position by purchasing shares of common stock in the open market or by exercising the over-allotment option granted to the underwriter. In addition, the underwriter may stabilize or maintain the price of the common stock by bidding for or purchasing

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shares of common stock in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if shares of common stock previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the common stock at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also effect the price of the common stock to the extent that it discourages resales of the common stock. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on the NYSE MKT or otherwise and, if commenced, may be discontinued at any time

In addition, in connection with this offering, the underwriter (and selling group members) may engage in passive market making transactions in the shares on the NYSE MKT Market, prior to the pricing and completion of the offering. Passive market making consists of displaying bids on the NYSE MKT Market no higher than the bid prices of independent market makers and making purchases at prices no higher than those independent bids and effected in response to order flow. Net purchases by a passive market maker on each day are limited to a specified percentage of the passive market maker s average daily trading volume in the shares during a specified period and must be discontinued when that limit is reached. Passive market making may cause the price of the shares to be higher than the price that otherwise would exist in the open market in the absence of those transactions. If the underwriter commences passive market making transactions, they may discontinue them at any time.

The underwriter may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses.

Selling Restrictions

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), the underwriter represents and agrees that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, it has not made and will not make an offer of securities which are the subject of the offering contemplated by this prospectus supplement to the public in that Relevant Member State other than:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 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

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer to the public in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the

offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe the securities, as the 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, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

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Notice to Prospective Investors in the United Kingdom

The underwriter represents, warrants and agrees as follows:

(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 securities in circumstances in which Section 21 of the FSMA does not apply to us; and

(b) it has complied with, and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Notice to Prospective Investors in Canada

The securities 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 securities 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 supplement (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 underwriter is not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement and the accompanying prospectus, and information in documents that we file later with the SEC will automatically update and supersede the information in this prospectus supplement and the accompanying prospectus. We incorporate by reference into this prospectus supplement the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c) 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until this offering is completed and all securities are sold or until the sale of securities pursuant to this prospectus supplement is terminated by us:

- Our Annual Report on Form 10-K for the year ended December 31, 2015 filed with the SEC on February 27, 2015;
- Our Amendments No. 1 on Form 10-K/A to our Annual Reports on Form 10-K for the years ended December 31, 2015, 2014, and 2013, each filed with the SEC on October 31, 2016;
- Our Quarterly Reports on Form 10-Q for the quarter ended September 30, 2016 filed with the SEC on October 27, 2016 and for the quarter ended March 31, 2016 filed with the SEC on May 11, 2016;
- Our Current Reports on Form 8-K filed with the SEC on August 2, 2016, August 1, 2016, July 5, 2016, May 11, 2016, and April 21, 2016;
- Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 filed with the SEC on October August 2, 2016;
- Our definitive proxy statement on Schedule 14A filed with the SEC on May 24, 2016;
- Our Specialized Disclosure Report on Form SD filed with the SEC on August 2, 2016; and
- description of our common stock contained in our Registration Statement on Form 8-A pursuant to Section 12(b) of the Exchange Act, as originally filed on November 3, 2003 and as thereafter amended.

Upon request, we will provide, free of charge, to each person to whom a prospectus supplement and accompanying prospectus is delivered, including a beneficial owner, a copy of any or all information that has been incorporated by reference in the prospectus supplement and accompanying prospectus but not delivered with the prospectus supplement and accompanying prospectus. Any such request may be made orally or in writing to Bovie Medical Corporation, 4 Manhattanville Road, Suite 106, Purchase, New York 10577, Attention: Jay D. Ewers, Chief Financial Officer, Tel. No.: (727) 803-8636.

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WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC s website at www.sec.gov. You may also read and copy any document we file at the SEC s public reference room at 100 F Street, N.E., Washington, D.C. 205409. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room.

The registration statement to which this prospectus supplement forms a part and the documents referred to above under Incorporation of certain information by reference are also available on our website at http://www.boviemedical.com. We have not incorporated by reference into this prospectus supplement and accompanying prospectus the information on our website, and you should not consider it to be a part of this prospectus supplement and accompanying prospectus.

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LEGAL MATTERS

The validity of the issuance of securities offered hereby will be passed upon for us by Ruskin Moscou Faltischek, P.C., Uniondale, New York. Certain legal matters will be passed upon for the underwriter by Goodwin Procter LLP, New York, New York.

EXPERTS

The consolidated financial statements incorporated in this prospectus supplement by reference from Bovie Medical Corporation s Annual Report on Form l0-K for the year ended December 31, 2015 have been audited by Frazier Deeter, LLC, independent registered public accountants, as stated in their report, which is incorporated herein by reference, and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

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PROSPECTUS

BOVIE MEDICAL CORPORATION

7,563,153 Shares of Common Stock of Bovie Corporation

This prospectus relates to the resale by the selling stockholders named in this prospectus or their pledgees, donees, transferees, or other successors in interest, of up to 7,563,153 shares of our common stock (i) issuable upon conversion of shares of our Series B Convertible Preferred Stock, which they acquired in an exchange transaction in which such selling stockholders exchanged an aggregate of 3,500,000 shares of our Series A 6% Convertible Preferred Stock and 5,250,000 common stock purchase warrants for an aggregate of 3,588,139 shares of our Series B Convertible Preferred Stock, and (ii) issuable upon the exercise of five and one-half-year warrants. The securities registered also include a certain number of shares of common stock as may be issued pursuant to the anti-dilution and adjustment provisions provided in the Series B Convertible Preferred Stock. We will not receive any proceeds from any such sale of these shares, however we may receive payment in cash upon exercise of the warrants.

Our common stock is listed on the NYSE MKT under the symbol BVX. The last reported sale price of our common stock on April 10, 2015 was $2.43 per share.

INVESTING IN OUR SECURITIES INVOLVES CERTAIN RISKS. YOU SHOULD READ THIS PROSPECTUS, ANY PROSPECTUS SUPPLEMENT AND ALL OTHER INFORMATION INCLUDED OR INCORPORATED BY REFERENCE INTO THIS PROSPECTUS CAREFULLY BEFORE YOU INVEST, INCLUDING THE RISK FACTORS WHICH BEGIN ON PAGE 5 OF THIS PROSPECTUS.

The shares of common stock may be offered by the selling stockholders in negotiated transactions, at either prevailing market prices or negotiated prices. Each selling stockholder in its discretion may also offer the shares of common stock from time to time in ordinary brokerage transactions on the NYSE MKT or otherwise. See our discussion in the Plan of Distribution section of this prospectus.

The selling stockholders and any brokers executing selling orders on behalf of the selling stockholders may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended, and commissions received by a broker executing selling orders may be deemed to be underwriting commissions under the Securities Act.

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.

THE DATE OF THIS PROSPECTUS IS APRIL 24, 2015

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You should read this prospectus, including all documents incorporated herein by reference, together with additional information described under Where You Can Find More Information.

You may obtain the information incorporated by reference without charge by following the instructions under Where You Can Find More Information.

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SUMMARY

The following summary highlights selected information contained elsewhere or incorporated by reference in this prospectus. This summary does not contain all the information you should consider before investing in our securities. You should read the entire prospectus and the documents incorporated by reference in this prospectus carefully before making an investment decision.

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone else to provide you with different or additional information. We are not making an offer to sell these securities in any jurisdiction where the offer is not permitted. You should not assume that the information contained in this prospectus or in the documents incorporated by reference herein is accurate as of any date other than the date on the front of this prospectus or the filing date of any document incorporated by reference, regardless of its time of delivery, and you should not consider any information in this prospectus or in the documents incorporated by reference herein to be investment, legal or tax advice. We encourage you to consult your own counsel, accountant and other advisors for legal, tax, business, financial and related advice regarding an investment in our securities.

Our Company

We were incorporated in 1982, under the laws of the State of Delaware and has its principal executive office at 4 Manhattanville Road, Suite #106, Purchase, New York 10577.

We are an energy-based medical device company specializing in developing, manufacturing, and marketing a range of electrosurgical products and technologies, as well as related medical products used in doctor s offices, surgery centers and hospitals worldwide. Our medical devices are marketed through Bovie s own well-respected brands (Bovie®, Aaron®, IDS and ICON) and on a private label basis to distributors throughout the world. The Company also leverages its expertise in the design, development and manufacturing of electrosurgical equipment by producing equipment for large, well-known medical device manufacturers through original equipment manufacturing (OEM) agreements.

We are also the developer of J-Plasma®; a patented new plasma-based surgical product which we believe has the potential to be a transformational product for surgeons. J-Plasma utilizes a helium ionization process that produces a stable, focused beam of ionized gas that provides surgeons with greater precision, minimal invasiveness and an absence of conductive currents during surgery. While currently in the early stages of commercialization, J-Plasma has been the subject of five independent white papers and has been cited therein for its clinical utility in gynecological surgeries and dermatologic/facial plastic surgery procedures.

Our objective is to achieve profitable, sustainable growth by increasing our market share in the advanced energy category, including the commercialization of products that have the potential to be transformational with respect to the results they produce for surgeons and patients. In order to achieve this objective, we plan to leverage our long history in the industry, along with the reputation for quality and reliability that the Bovie brand enjoys within the medical community. At the same time, we will expand our products beyond radio frequency, move forward with research and developments projects aimed at creating value within our existing product portfolio and building our pipeline of new complementary products, and utilize multiple channels to bring new and existing products to market.

Significant Subsidiaries

Aaron Medical Industries, Inc. is a wholly-owned Florida corporation based in Clearwater, Florida. It is principally engaged in the business of marketing our medical products.

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Company Products

We group our products into three main categories: electrosurgery, cauteries, and other products. Information regarding sales by product categories and related percentages can be found in our annual and quarterly reports filed with the SEC. We manufacture and market various medical products, both under private label and the Bovie brands (Bovie, Aaron, IDS, ICON and DERM), to distributors worldwide. Additionally, Bovie has original equipment manufacturing (OEM) agreements with other medical device manufacturers. These OEM and private label arrangements and our use of the Bovie brands enable us to gain greater market share for the distribution of our products.

Electrosurgery Products

Electrosurgery is our largest product line and includes desiccators, generators, electrodes, electrosurgical pencils and various ancillary disposable products. These electrosurgical products are used during surgical procedures in gynecology, urology, plastic surgery, dermatology, veterinary, and other surgical markets for the cutting and coagulation of tissue. It is estimated that 80% of all surgical procedures performed worldwide are conducted by electrosurgery. Our electrosurgery products fall under two categories, monopolar and bipolar. Monopolar products require the use of a grounding pad attached to the patient for the return of the electrical current, while bipolar products consist of two electrodes; one for the inbound current and one for the return current and therefore do not require the use of a grounding pad.

Electrosurgical Disposables

Resistick II

Resistick II is a trademarked and proprietary coating that is applied to stainless steel that resist eschar (scab or scar tissue caused by burning) during surgery. We have experienced strong demand for this product since its introduction in 2011, and it represents our continued expansion of the Bovie line of electrosurgical disposables.

Disposable Laparoscopic Electrodes

We are introducing a line of disposable laparoscopic electrodes in the first quarter of 2015 in Resitick coated and stainless steel for use by physicians from a broad group of specialties including gynecology, general surgery and urology. These electrodes will be offered in J-hook, L-hook, needle, ball and spatula design and have an adapter included which makes these laparoscopic electrodes usable with a 3/32 or 4mm plug.

Cauteries

Battery Operated Cauteries

Battery operated cauteries constitute our second largest product line. Cauteries were originally designed for precise hemostasis (to stop bleeding) in ophthalmology. The current use of cauteries has been substantially expanded to include a broad range of applications Battery operated cauteries are primarily sterile one-time use products. We have continued to improve our offering and now have a snap design cautery which has a patent pending. It features a switch mechanism that dramatically reduces the potential for accidental activation. We manufacture one of the broadest lines of cauteries in the world, including but not limited to, a line of replaceable battery and replaceable tip cauteries, which are popular in veterinary and overseas markets.

Other Products

Battery Operated Medical Lights

We manufacture and market a variety of specialty lighting instruments for use in ophthalmology as well as distribute specialty lighting instruments for general surgery, hip replacement surgery and for the placement of endotracheal tubes in emergency and surgical procedures. We also manufacture and market physicians office use penlights.

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Nerve Locator Stimulator

We manufacture a nerve locator stimulator primarily used for identifying motor nerves in hand and facial reconstructive surgery. This instrument is a sterile, self-contained, battery-operated unit, for one time use.

J-Plasma Products

ICON GS

Bovie s J-Plasma technology is the foundation for the ICON GS plasma system, which utilizes a helium ionization process producing a stable thin focused beam of ionized gas that can be controlled in a wide range of temperatures and intensities, providing the surgeon greater control and predictability with minimal thermal damage to surrounding tissue. The development of this helium plasma generator also includes the design of a new proprietary handpiece.

The 510(k) cleared and CE mark approved Bovie Ultimate generator will eventually replace the ICON GS plasma system. In addition to the J-Plasma technology, the Bovie Ultimate will have the IDS 310 capability, offering users monopolar, bipolar and plasma features, all in one generator.

J-Plasma Disposable Portfolio

We offer different hand pieces for open and laparoscopic procedures. The helium-based plasma generated from these devices have been shown to cause less thermal damage to tissue than C02 laser, argon plasma and RF energy products currently available on the market.

The most recent product launched in the J-plasma portfolio is the Pistol Grip handpiece. This product offers improved ergonomics and is providing an increased rate of adoption of the technology. Bovie will continue to launch products from a rich pipeline that will allow surgeons to treat from a variety of surgical specialties.

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About This Offering

This prospectus relates to the resale by the selling stockholders identified in this prospectus of up to 7,563,153 shares of common stock issuable upon (i) conversion of 3,588,139 shares of our Series B Convertible Preferred Stock which were issued in a March 2015 transaction in exchange for and cancellation of an aggregate of 3,500,000 shares of our Series A 6% Convertible Preferred Stock and 5,250,000 warrants and (ii) and upon the exercise of five and one-half-year warrants (the Offering). All of the shares, when sold, will be sold by these selling stockholders. The selling stockholders may sell their shares of common stock from time to time at prevailing market prices. We will not receive any proceeds from the sale of the shares of common stock by the selling stockholders. However, we may receive the sale price of any common stock we issue to the selling stockholders upon exercise of the outstanding warrants.

Common Stock Offered:	Up to 7,563,153 shares of common stock, issuable upon conversion of shares of our Series B Convertible Preferred Stock and exercise of warrants.
Common Stock Outstanding at April 13, 2015:	23,391,035
Use of Proceeds:	We will not receive any proceeds from the sale of the 7,563,153 shares of common stock subject to resale by the selling stockholders under this prospectus.
Risk Factors:	An investment in the common stock offered under this prospectus is highly speculative and involves substantial risk. Please carefully consider the Risk Factors section and other information in this prospectus for a discussion of risks. Additional risks and uncertainties not presently known to us or that we currently deem to be immaterial may also impair our business and operations.
NYSE MKT Symbol:	BVX

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and all other information contained in this prospectus and in the documents incorporated by reference herein. You should also refer to the other information in this prospectus, including our financial statements and the related notes incorporated by reference in this prospectus.

Risks Related to our Business and Industry

The medical device industry is highly competitive and we may be unable to compete effectively.

The medical device industry is highly competitive. Many competitors in this industry are well-established, do a substantially greater amount of business, and have greater financial resources and facilities than we do.

Domestically, we believe we rank third in the number of units sold in the field of electrosurgical generator manufacturing and we sell our products and compete with other manufacturers in various ways. In addition to advertising, attending trade shows and supporting our distribution channels, we strive to enhance product quality and functionality, improve user friendliness, and expand product exposure.

We have also invested, and continue to invest, substantial resources to develop and monetize, our J-Plasma technology. If we are unable to gain acceptance in the marketplace of J-Plasma, our business and results of operations may be materially and adversely affected. From June of 2010 through December 31, 2014, we have invested approximately $5.5 million in the development and marketing of our J-Plasma technology.

We also compete by private labeling our products for major distributors under their label. This allows us to increase our position in the marketplace and thereby compete from two different approaches, our Aaron or Bovie label, and our customers private label. Our private label customers distribute our products under their name through their internal sales force. We believe our main competitors do not private label their products.

Lastly, at this time we sell the majority of our products through distributors. Many of the companies we compete with sell direct, thus competing directly with distributors they sometimes use.

Our industry is highly regulated by the U.S. Food and Drug Administration and international regulatory authorities, as well as other governmental, state and federal agencies which have substantial authority to establish criteria which must be complied with in order for us to continue in operation.

United States

Our products and research and development activities are subject to regulation by the FDA and other regulatory bodies. FDA regulations govern, among other things, the following activities:

- Product development
- Product testing

Product labeling

Product storage

Pre-market clearance or approval

Advertising and promotion

Product traceability, and

Product indications.

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In the United States, medical devices are classified on the basis of control deemed necessary to reasonably ensure the safety and effectiveness of the device. Class I devices are subject to general controls. These controls include registration and listing, labeling, pre-market notification and adherence to the FDA Quality System Regulation. Class II devices are subject to general and special controls. Special controls include performance standards, post market surveillance, patient registries and FDA guidelines. Class III devices are those which must receive pre-market approval by the FDA to ensure their safety and effectiveness. Currently, we only manufacture Class I and Class II devices. Pre-market notification clearance must be obtained for some Class I and most Class II devices when the FDA does not require pre-market approval. All of our products have been cleared by, or are exempt from, the pre-market notification process.

A pre-market approval application is required for most Class III devices. A pre-market approval application must be supported by valid scientific evidence to demonstrate the safety and effectiveness of the device. The pre-market approval application typically includes:

- Results of bench and laboratory tests, animal studies, and clinical studies
- A complete description of the device and its components; and
- A detailed description of the methods, facilities and controls used to manufacture the device, and proposed labeling.

The pre-market approval process can be expensive, uncertain and lengthy. A number of devices for which pre-market approval has been sought by other companies have never been approved for marketing.

International Regulation

To market products in the European Union, our products must bear the CE mark. Manufacturers of medical devices bearing the CE mark have gone through a conformity assessment process that assures that products are manufactured in compliance with a recognized quality system and to comply with the European Medical Devices Directive.

Each device that bears a CE mark has an associated technical documentation that includes a description of the following:

- Description of the device and its components,
- A summary of how the device complies with the essential requirements of the medical devices directive,
- Safety (risk assessment) and performance of the device,
- Clinical evaluations with respect to the device,

Methods, facilities and quality controls used to manufacture the device, and

Proposed labeling for the device.

Manufacturing and distribution of a device is subject to ongoing surveillance by the appropriate regulatory body to ensure continued compliance with quality system and reporting requirements.

We began CE marking of devices for sale in the European Union in 1999. In addition to the requirement to CE mark, each member country of the European Union maintains the right to impose additional regulatory requirements.

Outside of the European Union, regulations vary significantly from country to country. The time required to obtain approval to market products may be longer or shorter than that required in the United States or the European Union. Certain European countries outside of the European Union do recognize and give effect to the CE mark certification. We are permitted to market and sell our products in those countries.

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If we are unable to successfully introduce new products or fail to keep pace with competitive advances in technology, our business, financial condition and results of operations could be adversely affected. In addition, our research and development efforts rely upon investments and alliances, and we cannot guarantee that any previous or future investments or alliances will be successful.

Our research and development activities are an essential component of our efforts to develop new and innovative products for introduction in the marketplace. New and improved products play a critical role in our sales growth. We continue to place emphasis on the development of proprietary products, such as our J-Plasma technology, and product improvements to complement and expand our existing product lines. We maintain close working relationships with physicians and medical personnel in hospitals and universities who assist in product research and areas of development. Our research and development activities are primarily conducted internally and are expensed as incurred. These expenses include direct expenses for wages, materials and services associated with the development of our products net of any reimbursements from customers. Research and development expenses do not include any portion of general and administrative expenses. Our Clearwater, Florida facility has been our flagship research and design location. We expect to continue making future investments to enable us to develop and market new technologies and products to further our strategic objectives and strengthen our existing business. However, we cannot guarantee that any of our previous or future investments will be successful or that our new products such as J-Plasma, will gain market acceptance, the failure of which would have a material adverse effect on our business and results of operations.

The amount expended by us on research and development of our products during the years 2014, 2013, and 2012, totaled approximately $1.4, $1.3, and $1.3 million respectively. During the past three years, we invested substantial resources in the development and marketing of our J-Plasma technology, including the ICON GS plasma system, Endoscopic Modular Instruments and accompanying new generators. We have not incurred any direct costs relating to environmental regulations or requirements. For 2015, we expect the amount of our expenditures for research and development activities to remain similar to the level in 2014.

Even if we are successful in developing and obtaining approval for our new product candidates, there are various circumstances that could prevent the successful commercialization of the products.

Our ability to successfully commercialize our products will depend on a number of factors, any of which could delay or prevent commercialization, including:

- the regulatory approvals of our new products are delayed or we are required to conduct further research and development of our products prior to receiving regulatory approval;
- we are unable to build a sales and marketing group to successfully launch and sell our new products;
- we are unable to raise the additional funds needed to successfully develop and commercialize our products or acquire additional products for growth;
- we are required to allocate available funds to litigation matters;

we are unable to manufacture the quantity of product needed in accordance with current good manufacturing practices to meet market demand, or at all;

our product is determined to be ineffective or unsafe following approval and is removed from the market or we are required to perform additional research and development to further prove the safety and effectiveness of the product before re-entry into the market;

competition from other products or technologies prevents or reduces market acceptance of our products;

we do not have and cannot obtain the intellectual property rights needed to manufacture or market our products without infringing on another company s patents; or

we are unsuccessful in defending against patent infringement or other intellectual property rights, claims that could be brought against us, our products or technologies;

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The failure to successfully acquire or develop and commercialize new products will have a material and adverse effect on the future growth of our business, financial condition and results of operations.

Our international operations subject us to foreign currency fluctuations and other risks associated with operating in foreign countries.

We operate internationally and enter into transactions denominated in foreign currencies. To date, we have not hedged our exposure to changes in foreign currency exchange rates, and as a result, we are subject to foreign currency transaction and translation gains and losses. We purchase goods and services in U.S. dollars and Euros. Foreign exchange risk is managed primarily by satisfying foreign denominated expenditures with cash flows or assets denominated in the same currency therefore we are subject to some foreign currency fluctuation risk. Our currency value fluctuations were not material for 2014.

Our operations and cash flows may be adversely impacted by recent healthcare reform legislation.

The Patient Protection and Affordable Care Act and Health Care and Education Affordability Reconciliation Act were enacted into law in the U.S. in March 2010. Among other initiatives, this legislation imposes a 2.3% excise tax on domestic sales of class I, II, and III medical devices beginning in 2013. Substantially all of our products are class I or class II medical devices. In 2014 and 2013 we paid medical device excise tax of approximately $435,926 and $384,438, respectively. As approximately 84% of our 2014 sales were derived in the U.S. we cannot predict if any additional regulations will be implemented at the federal or state level, or the effect of any future legislation or regulation in the U.S. or internationally.

Our operations may experience higher costs to produce our products as a result of changes in prices for oil, gasoline, and other commodities.

We use some plastics and other petroleum-based materials along with precious metals contained in electronic components as raw materials in many of our products. Prices of oil and gasoline also significantly affect our costs for freight and utilities. Oil, gasoline and precious metal prices are volatile and may increase, resulting in higher costs to produce and distribute our products. Due to the highly competitive nature of the healthcare industry and the cost-containment efforts of our customers we may be unable to pass along cost increases through higher prices. If we are unable to fully recover these costs through price increases or offset through other cost reductions, our results of operations could be materially and adversely affected.

We have historically done a substantial amount of business with seven of our top ten customers, who are also major distributors of our product, which as a group have produced substantial revenues for our Company. Loss of business from a major customer will likely materially and adversely affect our business.

We manufacture the majority of our products on our premises in Clearwater, Florida. Labor-intensive sub-assemblies and labor-intensive products may be out-sourced to our specification. Although we sell through distributors, we market our products through national trade journal advertising, direct mail, distributor sales representatives and trade shows, under the Bovie name, the Bovie/Aaron name and private label. Major distributors include Cardinal Health, Independent Medical Co-Op Inc. (IMCO), McKesson Medical Surgical, Inc., Medline, National Distribution and Contracting Inc. (NDC), Owens & Minor, and Physician Sales & Service (PSS) now a division of McKesson. If any of these distributor relationships are terminated or not replaced, our revenue from the territories served by these distributors could be adversely affected.

We are also dependent on OEM customers who have no legal obligation to purchase products from us. Should such customers fail to give us purchase orders for the product after development, our future business and value of related assets could be negatively affected. Furthermore, no assurance can be given that such customers will give sufficient high priority to our products. Finally, disagreements or disputes may arise between us and our customers, which could adversely affect production and sales of our products.

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We rely on certain suppliers and manufacturers for raw materials and other products and are vulnerable to fluctuations in the availability and price of such products and services.

Fluctuations in the price, availability, and quality of the raw materials we use in our manufacturing could have a negative effect on our cost of sales and our ability to meet the demands of our customers. Inability to meet the demands of our customers could result in the loss of future sales. In addition, the costs to manufacture our products depend in part on the market prices of the raw materials used to produce them. We may not be able to pass along to our customers all or a portion of our higher costs of raw materials due to competitive and marketing pressures, which could decrease our earnings and profitability.

We also have collaborative arrangements with four key foreign suppliers under which we request the development of certain items and components and we purchase them pursuant to purchase orders. Our purchase order commitments are never more than one year in duration and are supported by our sales forecasts. The majority of our raw materials are purchased from sole-source suppliers. While we believe we could ultimately procure other sources for these components, should we experience any significant disruptions in this key supply chain, there are no assurances that we could do so in a timely manner which could render us unable to meet the demands of our customers, resulting in a material and adverse effect on our business and operating results. Over the past few years we have expanded the use of our Bulgarian supplier who manufactures a substantial number of our generator and accessory components. We anticipate expanding this relationship further to include manufacturing a large number of our J-Plasma components.

If we are unable to protect our patents or other proprietary rights, or if we infringe on the patents or other proprietary rights of others, our competitiveness and business prospects may be materially damaged.

We own 23 patents and 9 registered trademarks in the U.S. and have had 13 patents issued outside the U.S. with some of our early patents nearing the expiration of their patent term. Of those 23 patents, 15 are related to J-Plasma, with 8 issued and 7 pending. We also have several U.S. and international patent applications pending for various new products. We intend to continue to seek legal protection, primarily through patents, for our proprietary technology. Seeking patent protection is a lengthy and costly process, and there can be no assurance that patents will be issued from any pending applications, or that any claims allowed from existing or pending patents will be sufficiently broad or strong to protect our proprietary technology. There is also no guarantee that any patents we hold will not be challenged, invalidated or circumvented, or that the patent rights granted will provide competitive advantages to us. Our competitors have developed and may continue to develop and obtain patents for technologies that are similar or superior to our technologies. In addition, the laws of foreign jurisdictions in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

Adverse outcomes in current or future legal disputes regarding patent and other intellectual property rights could result in the loss of our intellectual property rights, subject us to significant liabilities to third parties, require us to seek licenses from third parties on terms that may not be reasonable or favorable to us, prevent us from manufacturing, importing or selling our products, or compel us to redesign our products to avoid infringing third parties intellectual property. As a result, our product offerings may be delayed, and we may be unable to meet customers requirements in a timely manner. Regardless of the merit of any related legal proceeding, we have incurred in the past and may be required to incur in the future substantial costs to prosecute, enforce or defend our intellectual property rights. Even in the absence of infringement by our products of third parties intellectual property rights, or litigation related to trade secrets, we have elected in the past and may in the future elect to enter into settlements to avoid the costs and risks of protracted litigation and the diversion of resources and management s attention. However, if the terms of settlements entered into with certain of our competitors are not observed or enforced, we may suffer further costs and risks. Any of these circumstances could have a material adverse effect on our business, financial condition and resources or results of operations.

Our ability to develop intellectual property depends in large part on hiring, retaining and motivating highly qualified design and engineering staff with the knowledge and technical competence to advance our technology

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and productivity goals. To protect our trade secrets and proprietary information, generally we have entered into confidentiality agreements with our employees, as well as with consultants and other parties. If these agreements prove inadequate or are breached, our remedies may not be sufficient to cover our losses.

Our manufacturing facilities are located in Clearwater, Florida and could be affected due to multiple risks from fire, hurricanes, physical changes in the planet due to climate change, and similar phenomena.

Our manufacturing facilities are located in Clearwater, Florida and could be affected by multiple weather risks, most notably hurricanes. Although we carry property and casualty insurance and business interruption insurance, future possible disruptions of operations or damage to property, plant and equipment due to hurricanes or other weather risks could result in impaired production and affect our ability to meet our commitments to our customers and impair important business relationships, the loss of which could adversely affect our operations and profitability. We do however maintain a backup generator at our Clearwater facility and a disaster recovery plan is in place to help mitigate this risk.

We do not produce hazardous materials or emissions that would adversely impact the environment. We do however, have air conditioning units and consume electricity which could be impacted by climate change in the form of increased rates. However, we do not believe the increase in expense from any rate increases, as a percentage of sales, would be material in the near term.

We have been and may in the future become subject to litigation proceedings that could materially and adversely affect our business.

Other Litigation

In addition to the litigation risks and proceedings mentioned below, we have recently been involved and may in the future become subject to legal claims or proceedings related to securities, employment, customer or third party contracts, environmental regulations, or other matters. The costs involved in defending these claims have been substantial, which have had an adverse effect on our profitability. In addition, if other claims are asserted against us, we may be required to defend against such claims, or deem it necessary or advisable to initiate a legal proceeding to protect our rights, the expense and distraction of such a claim or proceeding, whether or not resolved in our favor, could materially and adversely affect our business, financial condition and operating results. Further, if a claim or proceeding were resolved against us or if we were to settle any such dispute, we may be required to pay damages and costs or refrain from certain activities, any of which could have a material adverse impact on our business, financial condition and operating results.

Intellectual Property Litigation or Trade Secrets

We have in the past, experienced certain allegations of infringement of intellectual property rights and use of trade secrets and may receive other such claims, with or without merit, in the future. Previously, claims of infringement of intellectual property rights have sometimes evolved into litigation against us, and they may continue to do so in the future. It is inherently difficult to assess the outcome of litigation. Although we believe we have had adequate defenses to these claims and that the outcome of the litigation will not have a material adverse impact on our business, financial condition, or results of operations, there can be no assurances that we will prevail. Any such litigation could result in substantial cost to us, significantly reduce our cash resources, and create a diversion of the efforts of our technical and management personnel, which could have a material and adverse effect on our business, financial condition and operating results. If we are unable to successfully defend against such claims, we could be prohibited from future sales of the allegedly infringing product or products, which could materially and adversely affect our

future growth.

Product Liability Litigation

Although we carry liability insurance, due to the nature of our products and their use by professionals, we may, from time to time, be subject to litigation from persons who sustain injury during medical procedures in

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hospitals, physician s offices or in clinics and defending such litigation is expensive, disruptive, time consuming and could adversely affect our business. We currently maintain product liability insurance with combined coverage limits of $10 million on a claims-made basis. There is no assurance that this coverage will be adequate to protect us from any possible liabilities (individually or in the aggregate) we might incur in connection with the sale or testing of our products. In addition, we may need increased product liability coverage as additional products are commercialized. This insurance is expensive and in the future may not be available on acceptable terms, if at all.

Our business is subject to the potential for defects or failures associated with our products which could lead to recalls or safety alerts and negative publicity.

Manufacturing flaws, component failures, design defects, off-label uses or inadequate disclosure of product-related information could result in an unsafe condition or the injury or death of a patient. These problems could lead to a recall of, or issuance of a safety alert relating to, our products and result in significant costs and negative publicity. Due to the strong name recognition of our brands, an adverse event involving one of our products could result in reduced market acceptance and demand for all products within that brand, and could harm our reputation and our ability to market our products in the future. In some circumstances, adverse events arising from or associated with the design, manufacture or marketing of our products could result in the suspension or delay of our current regulatory reviews of our applications for new product approvals. We also may undertake voluntarily to recall products or temporarily shut down certain production lines based on internal safety and quality monitoring and testing data. Any of the foregoing problems could disrupt our business and have a material adverse effect on our business, results of operations, financial condition and cash flows.

We have incurred and may in the future incur impairments to our long-lived assets.

We review our long-lived assets, including intangible assets, for impairment annually or more frequently if events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Additionally, if in any period our stock price decreases to the point where our fair value, as determined by our market capitalization, is less than the book value of our assets, this could also indicate a potential impairment and we may be required to record an impairment charge in that period which could adversely affect our results of operations.

Our valuation methodology for assessing impairment requires management to make judgments and assumptions based on historical experience and to rely heavily on projections of future operating performance. We operate in highly competitive environments and projections of future operating results and cash flows may vary significantly from actual results. Additionally, if our analysis indicates potential impairment to a long-lived intangible asset, we may be required to record additional charges to earnings in our financial statements, which could negatively impact our results of operations.

Risks Related to Our Stock and this Offering

The market price of our stock has been and may continue to be highly volatile.

Our common stock is listed on the NYSE MKT under the ticker symbol BVX. The market price of our stock has been and may continue to be highly volatile, and announcements by us or by third parties may have a significant impact on our stock price. These announcements may include:

- our listing status on the NYSE MKT;

our operating results falling below the expectations of public market analysts and investors;

developments in our relationships with or developments affecting our major customers;

negative regulatory action or regulatory non-approval with respect to our new products;

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government regulation, governmental investigations, or audits related to us or to our products;

developments related to our patents or other proprietary rights or those of our competitors; and

changes in the position of securities analysts with respect to our stock.

The stock market has from time to time experienced extreme price and volume fluctuations, which have particularly affected the market prices for the medical technology sector companies, and which have often been unrelated to their operating performance. These broad market fluctuations may adversely affect the market price of our common stock.

Historically, when the market price of a stock has been volatile, holders of that stock have often instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

In addition, future sales by existing stockholders, warrant holders receiving shares upon the exercise of warrants, or any new stockholders receiving our shares in any financing transaction may lower the price of our common stock, which could result in losses to our stockholders. Future sales of substantial amounts of common stock in the public market, or the possibility of such sales occurring, could adversely affect prevailing market prices for our common stock or our future ability to raise capital through an offering of equity securities. Substantially all of our common stock is freely tradable in the public market without restriction under the Securities Act, unless these shares are held by our affiliates , as that term is defined in Rule 144 under the Securities Act.

We have no present intention to pay dividends on our common stock and, even if we change that policy, we may be unable to pay dividends on our common stock.

We currently do not anticipate paying any dividends on our common stock in the foreseeable future. We currently intend to retain future earnings, if any, to finance operations and invest in our business. Any declaration and payment of future dividends to holders of our common stock will be at the discretion of our board of directors and will depend on many factors, including our financial condition, earnings, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that our board of directors deems relevant.

If we change that policy and commence paying dividends, we will not be obligated to continue paying those dividends and our stockholders will not be guaranteed, or have contractual or other rights, to receive dividends. If we commence paying dividends in the future, our board of directors may decide, in its discretion, at any time, to decrease the amount of dividends, otherwise modify or repeal the dividend policy or discontinue entirely the payment of dividends. Under the Delaware law, our board of directors may not authorize the payment of a dividend unless it is either paid out of our statutory surplus.

The low trading volume of our common stock may adversely affect the price of our shares and their liquidity.

Although our common stock is listed on the NYSE MKT exchange, our common stock has experienced low trading volume. Limited trading volume may subject our common stock to greater price volatility and may make it difficult for investors to sell shares at a price that is attractive to them.

We may in the future seek to raise funds through equity offerings, which could have a dilutive effect on our common stock.

In the future we may determine to raise capital through offerings of our common stock, securities convertible into our common stock or rights to acquire these securities or our common stock. The result of sales of such securities, the exercise of warrants issued in connection with any such offering or the triggering of anti-dilution

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provisions in such securities would ultimately be dilutive to our common stock by increasing the number of shares outstanding. We cannot predict the effect this dilution may have on the price of our common stock. In addition, the shares of preferred stock may have rights which are senior or superior to those of the common stock, such as rights relating to voting, the payment of dividends, redemption or liquidation.

Exercise of warrants and options issued by us will dilute the ownership interest of existing stockholders.

As of April 13, 2015, the warrants issued by us in April 2010 were exercisable for up to approximately 530,001 shares of our common stock, representing approximately 2.3% of our then outstanding common stock. These warrants expire on April 18, 2015.

As of April 13, 2015, the warrants issued by us in December 2013 were exercisable for up to approximately 386,875 shares of our common stock, representing approximately 1.7% of our then outstanding common stock. These warrants expire on June 13, 2019.

As of April 13, 2015, our outstanding stock options to our employees, officers, directors and consultants amounted to approximately 2,899,189 shares of our common stock, representing approximately 12.4% of our then outstanding common stock.

The exercise of some or all of our warrants and stock options will dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act regarding our business, financial condition, results of operations and prospects. Words such as expects, anticipates, intends, plans, believes, seeks, estimates and similar expressions or variations of such words are intended to identify forward-looking statements. However, these are not the exclusive means of identifying forward-looking statements. Although forward-looking statements contained in this prospectus reflect our good faith judgment, such statements can only be based on facts and factors currently known to us. Consequently, forward-looking statements are inherently subject to risks and uncertainties, and actual outcomes may differ materially from the results and outcomes discussed in the forward-looking statements. Further information about the risks and uncertainties that may impact us are described or incorporated by reference in Risk Factors above. You should read that section carefully. You should not place undue reliance on forward-looking statements, which speak only as of the date of this prospectus. We undertake no obligation to update publicly any forward-looking statements in order to reflect any event or circumstance occurring after the date of this prospectus or currently unknown facts or conditions or the occurrence of unanticipated events. In addition, our past results are not necessarily indicative of future results, thus, we cannot guarantee future results, levels of activity, performance or achievements.

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USE OF PROCEEDS

The shares of common stock to be offered and sold pursuant to this prospectus will be offered and sold by the selling stockholders or their transferees. We will not receive any proceeds from the sale of the shares of common stock by the selling stockholders. We will, however, receive the proceeds of any cash exercises of warrants which, if received, would be used to fund clinical and commercial development activities and for general corporate purposes.

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SELLING STOCKHOLDERS

The shares of common stock being offered by the selling stockholders are those that are issuable to the selling stockholders upon conversion of the shares of Series B Convertible Preferred Stock and upon the exercise of five and one-half-year warrants issued to them. For additional information regarding the issuance of the shares of common stock and the warrants, see About this Offering above. We are registering the shares of common stock in order to permit the selling stockholders to offer the shares for resale from time to time. Except for the ownership of the shares of Series B Convertible Preferred Stock issued pursuant to the exchange transaction mentioned above, the issuance of the warrants pursuant to a Securities Purchase Agreement and the fact that Ian Sheffield, a director of the Company, is a director nominee of the selling stockholders that own the shares of Series B Convertible Preferred Stock the selling stockholders have not had any material relationship with us within the past three years.

The table below lists the selling stockholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder) of the shares of common stock held by each of the selling stockholders. The second column lists the number of shares of common stock beneficially owned by the selling stockholders, based on their respective ownership of shares of common stock, as of April 13, 2015.

The third column lists the shares of common stock being offered by this prospectus by the selling stockholders.

In accordance with the terms of a registration rights agreement with the holders of the shares of common stock, this prospectus generally covers the resale of the shares of common stock which are issuable upon conversion of the shares of Preferred Stock that have been issued to the selling stockholders. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

The selling stockholders may sell all, some or none of their shares in this offering. See Plan of Distribution.

	Beneficial Ownership Before Offering		Total Shares Offered By Selling	Beneficial Ownership After Offering	
Selling Stockholder	Shares	Percent	Stockholder	Shares(1)	Percent(1)
Biomedical Value Fund, L.P.(2)	3,390,348(3)	12.7%(3)	3,390,348(3)	0	0%
Biomedical Institutional Value Fund, L.P.(2)	871,890(4)	3.6%	871,890(4)	0	0%
Biomedical Offshore Value Fund, Ltd.(2)	1,896,640(5)	7.5%	1,896,640(5)	0	0%
WS Investments II, LLC(2)	128,066(6)	*	128,066(6)	0	0%
Class D Series of GEF-PS, L.P.(2)	889,334(7)	3.7%	889,334(7)	0	0%
Gilford Securities Incorporated(8)	262,500(9)	1.1%	262,500(9)	0	0%
David S. Kaplan	64,375(10)	*	64,375(10)	0	0%
John Cierski	60,000(11)	*	60,000(11)	0	0%

* Less than 1% of the outstanding Shares of common stock.

(1) Assumes that all the shares of the selling stockholders covered by this prospectus are sold, and that the selling stockholders do not acquire any additional shares of common stock before the completion of this offering.

However, as each selling stockholder can offer all, some or none of its common stock, no definitive estimate can be given as to the number of shares that any selling stockholder will ultimately offer or sell under this prospectus.

(2) Great Point Partners, LLC (Great Point) is the investment manager of each of Biomedical Institutional Value Fund, L.P., Biomedical Offshore Value Fund, Ltd., Biomedical Value Fund, L.P., Class D Series of GEF-PS, L.P. and WS Investments II, LLC (collectively, the Great Point Selling Stockholders), and has the power to vote or dispose of the shares listed above. Each of Dr. Jeffrey R. Jay, M.D. (Dr. Jay), as

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senior managing member of Great Point, and Mr. David Kroin (Mr. Kroin), as special managing member of Great Point, has voting and investment power with respect to the shares owned by each of the Great Point Selling Stockholders. Each of Great Point, Dr. Jay and Mr. Kroin disclaims beneficial ownership of such shares except to the extent of their respective pecuniary interest therein. The address for the Great Point Selling Stockholders is 165 Mason Street, 3rd Floor, Greenwich, CT 06830.

(3) Consists of 3,390,348 shares of common stock issuable upon the conversion of Series B preferred stock.
(4) Consists of 871,890 shares of common stock issuable upon the conversion of Series B preferred stock.
(5) Consists of 1,896,640 shares of common stock issuable upon the conversion of Series B preferred stock.
(6) Consists of 128,066 shares of common stock issuable upon the conversion of Series B preferred stock.
(7) Consists of 889,334 shares of common stock issuable upon the conversion of Series B preferred stock.
(8) Robert A. Maley, President of Gilford Securities Incorporated, has voting and investment control over the shares held by the selling stockholder.
(9) Consists of 262,500 shares issuable upon the exercise of warrants.
(10) Consists of 64,375 shares issuable upon the exercise of warrants which were assigned to the Selling Stockholder by Gilford Securities Incorporated.
(11) Consists of 60,000 shares issuable upon the exercise of warrants which were assigned to the Selling Stockholder by Gilford Securities Incorporated.

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PLAN OF DISTRIBUTION

We are registering the shares of common stock that are issuable upon conversion of the shares of Series B Preferred Stock, which have been issued to the selling stockholders, to permit the resale of these shares of common stock by the holders thereof from time to time after the date of this prospectus. We are also registering the shares of common stock that are issuable upon the exercise of warrants which have been issued to the selling stockholders. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of common stock issuable upon the conversion of the Series B Preferred Stock. We will, however, receive the proceeds of any cash exercises of warrants. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

Each Selling Stockholder (the **Selling Stockholders**) of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the principal trading market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;

in transactions through broker-dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

a combination of any such methods of sale; or

any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 under the Securities Act of 1933, as amended (the **Securities Act**), if available, rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Shareholders may also, to the extent permitted under Rule 105 of Regulation M, sell shares of their common stock short and deliver these securities to close out their short positions, or loan or pledge shares of their common stock to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with

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broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. In no event shall any broker-dealer receive fees, commissions and markups, other than in connection with the closing of the securities purchase agreements by and between various Selling Stockholders and the Company, which, in the aggregate, would exceed eight percent (8%).

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities however, a Selling Stockholder will pay all underwriting discounts and commissions, if any. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Because Selling Stockholders may be deemed to be underwriters within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus.

The Company agreed to keep a Registration Statement effective until the later of (i) March 17, 2018, (ii) the date on which the Registrable Securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (iii) the date on which all of the Registrable Securities have been sold pursuant to a Registration Statement or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of securities of the common stock by the Selling Stockholders or any other person. The Company will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

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LEGAL MATTERS

The validity of the issuance of securities offered hereby will be passed upon for us by Ruskin Moscou Faltischek, P.C., of Uniondale, New York.

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference from Bovie Medical Corporation s Annual Report on Form l0-K for the year ended December 31, 2014 have been audited by Frazier and Deeter, LLC, independent auditors, as stated in their report, which is incorporated herein by reference, and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC s website at www.sec.gov. You may also read and copy any document we file at the SEC s public reference room at 100 F Street, N.E., Washington, D.C. 205409. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede the information in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c) 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until this offering is completed and all securities are sold:

- Our Annual Report on Form 10-K for the year ended December 31, 2014 filed with the SEC on March 1, 2015.
- Our Current Report on Form 8-K filed with the SEC on March 31, 2015.
- Our Current Report on Form 8-K filed with the SEC on March 17, 2015.
- Our Current Report on Form 8-K filed with the SEC on March 12, 2015.
- Our Current Report on Form 8-K filed with the SEC on March 11, 2015.
- Our Current Report on Form 8-K filed with the SEC on March 2, 2015.
- Description of the Registrant s Common Stock contained in the Registration Statement on Form 8-A filed with the SEC on November 3, 2003.

Upon request, Bovie will provide, free of charge, to each person to whom a prospectus is delivered, including a beneficial owner, a copy of any or all information that has been incorporated by reference in the prospectus but not delivered with the prospectus. Any such request may be made orally or in writing to Bovie Medical Corporation, 4 Manhattanville Road, Suite 106, Purchase, New York 10577, Attention: Peter Donato, CFO, Tel. No.: (727) 803-8593.

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Shares

BOVIE MEDICAL CORPORATION

Common Stock

PROSPECTUS SUPPLEMENT

Piper Jaffray

The date of this prospectus supplement is November , 2016