

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

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Ekso Bionics Holdings, Inc.

(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation or organization)

3841

(Primary Standard Industrial
Classification Code Number)

99-0367049

(I.R.S. Employer
Identification Number)

**1414 Harbour Way South, Suite 1201
Richmond, California 94804
(510) 984-1761**

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

**Thomas Looby
Chief Executive Officer
Ekso Bionics Holdings, Inc.
1414 Harbour Way South, Suite 1201
Richmond, California 94804
(510) 984-1761**

(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copy to:

**Erin M. Anderman
Nutter, McClennen & Fish, LLP
155 Seaport Boulevard
Boston, Massachusetts 02210
(617) 439-2000**

From time to time after the effective date of this registration statement

(Approximate date of commencement of proposed sale to the public)

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

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

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

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

~~Smaller reporting company~~
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

CALCULATION OF REGISTRATION FEE

<u>Title of each class of securities to be registered</u>	<u>Amount to be Registered</u>	<u>Offering Price Per Share</u>	<u>Aggregate Offering Price</u>	<u>Amount of registration fee</u>
Common stock, par value \$0.001 per share	20,534,898(1)	\$ 1.25(2)	\$ 25,668,623	\$ 3,195.74

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, there is also being registered hereby such indeterminate number of additional shares of common stock of the registrant as may be issued or issuable because of stock splits, stock dividends, stock distributions, and similar transactions.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, based on the average of the high and low prices of the registrant's common stock as quoted on the Nasdaq Capital Market on September 28, 2017. The shares offered hereunder may be sold by the selling stockholder from time to time in the open market, through privately negotiated transactions or a combination of these methods, at market prices prevailing at the time of sale or at negotiated prices.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and the selling stockholder is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated October 4, 2017



Ekso Bionics Holdings, Inc.

Prospectus

**20,534,898 Shares
Common Stock**

This prospectus relates to the sale of up to 20,534,898 shares of our common stock, par value \$0.001 per share, of Ekso Bionics Holdings, Inc., a Nevada corporation, by the selling stockholder named in this prospectus. The shares being offered were issued and sold to accredited investors in a private placement offering, or the 2017 Private Placement, which closed on September 11, 2017. Shares of common stock issued in the 2017 Private Placement were sold at a purchase price of \$1.00 per share.

The shares offered by this prospectus may be sold by the selling stockholder from time to time in the open market, through privately negotiated transactions or a combination of these methods, at market prices prevailing at the time of sale or at negotiated prices. See the disclosure under the heading “Plan of Distribution” elsewhere in this prospectus for more information about how the selling stockholder may sell or otherwise dispose of its shares of common stock hereunder.

The selling stockholder may sell any, all or none of the securities offered by this prospectus and we do not know when or in what amount the selling stockholder may sell its shares of common stock hereunder following the effective date of this registration statement.

We will not receive any proceeds from the sale of our common stock by the selling stockholder in the offering described in this prospectus. We will bear all expenses of registration incurred in connection with this offering, but all selling and other expenses incurred by the selling stockholder will be borne by the selling stockholder.

Our common stock is listed on the Nasdaq Capital Market under the symbol “EKSO.” On September 28, 2017, the last reported sale price for our common stock was \$1.25 per share. Prospective purchasers of our securities are urged to obtain current information as to the market prices of our securities, where applicable.

We are an “emerging growth company” as defined under the federal securities laws, and, as such, are eligible for reduced public company reporting requirements.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. BEFORE DECIDING WHETHER TO INVEST IN OUR SECURITIES, YOU SHOULD CONSIDER CAREFULLY THE RISKS THAT WE HAVE DESCRIBED ON PAGE 6 OF THIS PROSPECTUS UNDER THE CAPTION “RISK FACTORS” AND ANY SIMILAR SECTION CONTAINED IN ANY SUPPLEMENTS TO THIS PROSPECTUS.

You should rely only on the information contained in this prospectus or any prospectus supplement or amendment thereto. We have not authorized anyone to provide you with different information. This prospectus may only be used where it is legal to sell these securities. The information in this prospectus is only accurate on the date of this prospectus, regardless of the time of any sale of securities.

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

This prospectus is dated _____, 2017.

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ABOUT THIS PROSPECTUS

You should rely only on the information contained in this prospectus or in any prospectus we may authorize to be delivered to you. We have not authorized anyone to provide you with information other than that contained in this prospectus. We are not, and the selling stockholder is not, making an offer of securities in any state or other jurisdiction where it is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date. Further, you should not consider any information in this prospectus 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.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless the context otherwise requires, “Ekso Bionics,” “the Company,” “we,” “us,” “our” and similar terms refer to Ekso Bionics Holdings, Inc. and our subsidiaries.

Note Regarding Reverse Stock Split

Effective May 4, 2016, the Company effected a one-for-seven reverse split of its common stock. As a result of the reverse stock split, every seven shares of issued and outstanding common stock were converted into one share of issued and outstanding common stock. Historical share and per share amounts reflected in this prospectus have been adjusted to reflect the reverse stock split.

PROSPECTUS SUMMARY

The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus. We urge you to read this entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information incorporated by reference from our other filings with the SEC or included in any applicable prospectus supplement. Investing in our securities involves risks. Therefore, you should carefully consider the risk factors set forth in any prospectus supplements and in our most recent annual and quarterly filings with the SEC, as well as other information in this prospectus and any prospectus supplements and the documents incorporated by reference herein or therein, before purchasing our securities. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities.

Company Overview

Ekso Bionics designs, develops and sells exoskeletons that augment human strength, endurance, and mobility. Our exoskeleton technology serves multiple markets and can be used both by able-bodied users as well as by persons with physical disabilities. We have sold, rented or leased devices that (a) enable individuals with neurological conditions affecting gait (stroke and spinal cord injury) to rehabilitate and to walk again and (b) allow industrial workers to perform heavy duty work for extended periods.

Additional Information

For additional information related to our business and operations, please refer to the reports incorporated herein by reference, including our Annual Report on Form 10-K for the year ended December 31, 2016, as described under the caption "Incorporation of Documents by Reference" on page 10 of this prospectus.

Corporate Information

We were incorporated under the laws of the State of Nevada in January 2012 under the name PN Med Group, Inc. and changed our name to Ekso Bionics Holdings, Inc. in December 2013. Ekso Bionics, Inc. was incorporated under the laws of the State of Delaware in January 19, 2005 and in January 2014 completed a reverse merger transaction with and became a wholly-owned subsidiary of Ekso Bionics Holdings, Inc. In connection with the reverse merger transaction and pursuant to a split-off agreement and general release, we transferred our pre-merger assets and liabilities to our pre-merger majority stockholders, in exchange for the surrender by them and cancellation of 2,497,586 shares of our common stock. As a result of the merger and split-off, we discontinued our pre-merger business and acquired the business of Ekso Bionics, and have continued the existing business operations of Ekso Bionics as a publicly-traded company under the name Ekso Bionics Holdings, Inc.

Our principal executive offices are located at 1414 Harbour Way South, Suite 1201, Richmond, California 94804 and our telephone number is (510) 984-1761. Our website address is www.eksobionics.com. The information on, or that can be accessed through, our website is not part of this prospectus.

We make available free of charge on or through our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Copies of our annual reports on Form 10-K will be furnished without charge to any person who submits a written request directed to the attention of our Secretary, at our offices located at 1414 Harbour Way South, Suite 1201, Richmond, California, 94804. The SEC maintains an internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

About This Offering

This prospectus relates to the public offering, which is not being underwritten, by the selling stockholder listed in this prospectus, of up to 20,534,898 shares of our common stock. The shares being offered were issued and sold to accredited investors in a private placement offering, or the 2017 Private Placement, which closed on September 11, 2017. Shares of common stock issued in the 2017 Private Placement were sold at a purchase price of \$1.00 per share. The shares offered by this prospectus may be sold by the selling stockholder from time to time after the 12-month anniversary of the closing of the 2017 Private Placement in the open market, through negotiated transactions or otherwise at market prices prevailing at the time of sale or at negotiated prices. We will receive none of the proceeds from the sale of the shares by the selling stockholder. We will bear all expenses of registration incurred in connection with this offering, but all selling and other expenses incurred by the selling stockholder will be borne by the selling stockholder.

Implications of Being an Emerging Growth Company

As a company with less than \$1.0 billion in revenue during our last fiscal year, we qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups, or JOBS, Act enacted in April 2012. An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes Oxley Act of 2002;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these provisions for up to five years after the first sale of our common equity securities pursuant to an effective registration statement under the Securities Act of 1933, as amended (the “Securities Act”). However, if certain events occur prior to the end of such five year period, including if we become a “large accelerated filer,” our annual gross revenues exceed \$1 billion or we issue more than \$1 billion of non-convertible debt in any three year period, we would cease to be an emerging growth company prior to the end of such five year period. We will cease being an emerging growth company as of December 31, 2017.

We may choose to take advantage of some but not all of these reduced burdens. We have taken advantage of certain of the reduced disclosure obligations regarding executive compensation in this registration statement and may elect to take advantage of other reduced burdens in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. However, we have irrevocably elected not to avail ourselves of this extended transition period for complying with new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

This prospectus relates to the resale from time to time by the selling stockholder identified herein of up to 20,534,898 shares of our common stock. We are not offering any shares for sale under the registration statement of which this prospectus is a part.

Common stock currently outstanding	59,903,876 shares ⁽¹⁾⁽²⁾
Common stock offered by the Company	None
Common stock offered by the selling stockholder	20,534,898 shares
Use of proceeds	We will not receive any of the proceeds from the sales of our common stock offered by the selling stockholder under this prospectus. See "Use of Proceeds."
NASDAQ symbol	EKSO
Risk Factors	Investing in our common stock involves a high degree of risk. See "Risk Factors" and other information included in this prospectus for a discussion of factors that you should consider carefully before deciding to invest in our common stock.

(1) As of September 28, 2017.

(2) Excludes 4,852,499 shares of our common stock reserved for issuance under our 2014 Amended and Restated Equity Plan, or 2014 Plan, and our Employee Stock Purchase Plan, or ESPP. As of September 28, 2017, there were 3,463,761 unissued shares of common stock subject to outstanding options and restricted stock units pursuant to the 2014 Plan and the ESPP.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein, contain forward-looking statements. Any and all statements contained in this prospectus that are not statements of historical fact may be deemed forward-looking statements. Terms such as “may,” “might,” “would,” “should,” “could,” “project,” “estimate,” “pro-forma,” “predict,” “potential,” “strategy,” “anticipate,” “attempt,” “develop,” “plan,” “help,” “believe,” “continue,” “intend,” “expect,” “future,” and terms of similar import (including the negative of any of the foregoing) may be intended to identify forward-looking statements. However, not all forward-looking statements may contain one or more of these identifying terms. Forward-looking statements in this prospectus may include, without limitation, statements regarding (i) the plans and objectives of management for future operations, including plans or objectives relating to the design, development and commercialization of human exoskeletons, (ii) a projection of income (including income/loss), earnings (including earnings/loss) per share, capital expenditures, dividends, capital structure or other financial items, (iii) our future financial performance, including any such statement contained in a discussion and analysis of financial condition by management or in the results of operations included pursuant to the rules and regulations of the Securities and Exchange Commission (the “SEC”), (iv) our beliefs regarding the potential for commercial opportunity for exoskeleton technology in general and our exoskeleton products in particular, (v) our beliefs regarding potential clinical and other health benefits of our medical devices, and (vi) the assumptions underlying or relating to any statement described in points (i), (ii), (iii), (iv) or (v) above.

The forward-looking statements are not meant to predict or guarantee actual results, performance, events or circumstances and may not be realized because they are based upon our current projections, plans, objectives, beliefs, expectations, estimates and assumptions and are subject to a number of risks and uncertainties and other influences, many of which we have no control over. Actual results and the timing of certain events and circumstances may differ materially from those described by the forward-looking statements as a result of these risks and uncertainties. Factors that may influence or contribute to the inaccuracy of the forward-looking statements or cause actual results to differ materially from expected or desired results may include, without limitation, our inability to obtain adequate financing, the significant length of time and resources associated with the development of our products and related insufficient cash flows and resulting illiquidity, our inability to expand our business, significant government regulation of medical devices and the healthcare industry, the results of clinical studies or trials, lack of product diversification, volatility in the price of our raw materials, existing or increased competition, results of arbitration and litigation, stock volatility and illiquidity, and our failure to implement our business plans or strategies. A description of some of the risks and uncertainties that could cause our actual results to differ materially from those described by the forward-looking statements in this prospectus appears in the section captioned “Risk Factors” and elsewhere in this prospectus.

Readers are cautioned not to place undue reliance on forward-looking statements because of the risks and uncertainties related to them and to the risk factors. We disclaim any obligation to update the forward-looking statements contained in this prospectus to reflect any new information or future events or circumstances or otherwise.

Readers should read this prospectus in conjunction with the discussion under the caption “Risk Factors,” our financial statements and the related notes thereto in this prospectus, and other documents which we may file from time to time with the SEC.

RISK FACTORS

An investment in shares of our common stock is highly speculative and involves a high degree of risk. We face a variety of risks that may affect our operations or financial results and many of those risks are driven by factors that we cannot control or predict. Before investing in our common stock you should carefully consider the risks and uncertainties and all other information contained in or incorporated by reference in this prospectus, including the risks and uncertainties discussed in our Annual Report on Form 10-K for the year ended December 31, 2016, together with any material changes or additions thereto contained in subsequent filed Quarterly Reports on Form 10-Q and those contained in our other filings with the SEC, which are incorporated herein by reference. For a description of these reports and documents, and information about where you can find them, see “*Where You Can Find More Information*” and “*Incorporation of Certain Documents By Reference*.”

If any of these risks actually occurs, our business, prospects, financial condition and results of operations could be materially adversely affected. In that case, the trading price of our common stock would likely decline and you may lose all or a part of your investment. Only those investors who can bear the risk of loss of their entire investment should invest in our common stock.

USE OF PROCEEDS

We are registering the shares of common stock issued to the selling stockholder in the 2017 Private Placement to permit the resale of these shares of common stock by the selling stockholder from time to time after the 12-month anniversary of the closing of the 2017 Private Placement. We will not receive any proceeds from the sale of our common stock offered by the selling stockholder under this prospectus.

We will bear all fees and expenses incident to our obligation to register the shares of our common stock being offered for resale hereunder by the selling stockholder.

DETERMINATION OF OFFERING PRICE

The selling stockholder will determine at what price it may sell the offered shares, and such sales may be made at prevailing market prices or at privately negotiated prices. See “*Plan of Distribution*” below for more information.

SELLING STOCKHOLDER

This prospectus covers the resale from time to time by the selling stockholder identified in the table below of up to 20,534,898 outstanding shares of common stock sold to the selling stockholder in the 2017 Private Placement. Pursuant to the Purchase Agreement entered into in connection with the 2017 Private Placement, the investors, including the selling stockholder listed in the table below, are prohibited from selling, pledging or otherwise disposing of the shares of common stock acquired by them in the 2017 Private Placement for a period of 12 months following the closing of the 2017 Private Placement, other than in connection with a bona fide gift of such shares approved by the Company or pursuant to a transfer without consideration.

Pursuant to the Registration Rights Agreement entered into with the investor in the 2017 Private Placement, we are filing with the SEC the registration statement of which this prospectus forms a part to register such resales of our common stock under the Securities Act. We have also agreed to cause this registration statement to become effective and to keep such registration statement effective within and for the time periods set forth in the Registration Rights Agreement. Our failure to satisfy the filing or effectiveness deadlines set forth in the Registration Rights Agreement may subject us to payment of certain monetary penalties pursuant to the terms of the Registration Rights Agreement.

The selling stockholder identified in the table below may from time to time (subject to the 12-month lock-up discussed above) offer and sell under this prospectus any or all of the shares of common stock described under the column “Shares of Common Stock Being Offered in this Offering” in the table below. The table below has been prepared based upon information furnished to us by the selling stockholder as of the date of this prospectus. The selling stockholder may have sold, transferred or otherwise disposed of some or all of its shares since the date on which the information in the following table is presented in transactions exempt from or not subject to the registration requirements of the Securities Act. Information concerning the selling stockholder may change from time to time and, if necessary, we will amend or supplement this prospectus accordingly.

We have assumed that all shares of common stock reflected in the table as being offered in the offering covered by this prospectus will be sold from time to time in this offering. We cannot give an estimate as to the number of shares of common stock that will actually be held by the selling stockholder upon termination of this offering because the selling stockholder may offer some or all of its common stock under the offering contemplated by this prospectus or acquire additional shares of common stock. The total number of shares that may be sold hereunder will not exceed the number of shares offered hereby. Please read the section entitled “Plan of Distribution” in this prospectus.

The following table sets forth the name of the selling stockholder, the nature of any position, office or other material relationship, if any, that the selling stockholder has had within the past three years with us or with any of our predecessors or affiliates, the number of shares of our common stock beneficially owned by such stockholder before this offering, the number of shares to be offered for such stockholder’s account and the number and the percentage of the class to be beneficially owned by such stockholder after completion of the offering. The number of shares owned are those beneficially owned, as determined under the rules of the SEC, and such information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any shares of our common stock as to which a person has sole or shared voting power or investment power and any shares of common stock which the person has the right to acquire within 60 days after September 28, 2017 (the “Determination Date”), through the exercise of any option, warrant or right, through conversion of any security or pursuant to the automatic termination of a power of attorney or revocation of a trust, discretionary account or similar arrangement, and such shares are deemed to be beneficially owned and outstanding for computing the share ownership and percentage of the person holding such options, warrants or other rights, but are not deemed outstanding for computing the percentage of any other person.

Selling Stockholder	Shares of Common Stock Beneficially Owned Prior to the Offering	Shares of Common Stock Being Offered in this Offering	Shares of Common Stock Beneficially Owned Upon Completion of the Offering ¹	Percentage of Common Stock Beneficially Owned Upon Completion of the Offering ²
Puissance Cross-Border Opportunities II LLC ⁽³⁾	20,534,898	20,534,898	0	0%

- 1 Assumes all of the shares of common stock to be registered on the registration statement of which this prospectus is a part are sold in the offering and that shares of common stock beneficially owned by such selling stockholder but not being registered by this prospectus (if any) are not sold.
- 2 Percentages are based on 59,903,876 shares of common stock issued and outstanding as of the Determination Date. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of common stock underlying shares of preferred stock, options or warrants currently exercisable or convertible, or exercisable or convertible within 60 days after the Determination Date are deemed outstanding for computing the percentage of the person holding such shares of preferred stock, options or warrants but are not deemed outstanding for computing the percentage of any other person.
- 3 Puissance Capital Management LP, or PCM, is the investment manager of the selling stockholder. Puissance Capital Fund (GP) LLC and Puissance Capital Management (GP) LLC are the general partners of PCM. Theodore T. Wang, Ph.D. is the managing member of the general partners and may be deemed to have voting and investment power over the shares held by the selling stockholder. Dr. Wang has been a member of our board of directors since September 19, 2017.

PLAN OF DISTRIBUTION

The selling stockholder may, from time to time (subject to the 12-month lock-up discussed above), sell any or all of its shares of our common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. If the shares of common stock are sold through underwriters, the selling stockholder will be responsible for underwriting discounts or commissions or agent's commissions. These sales may be at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. The selling stockholder may use any one or more of the following methods when selling shares:

- any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares 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;
- transactions other than on exchanges or systems or in the over-the-counter market;
- through the writing of options, whether such options are listed on an options exchange or otherwise;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- broker-dealers may agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholder may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus. We were at one time designated as a "shell company" under SEC regulations and consequently persons who wish to sell under Rule 144 must comply with additional requirements. Pursuant to Rule 144(i), securities issued by a current or former shell that otherwise meet the holding period and other requirements of Rule 144 nevertheless cannot be sold in reliance on Rule 144 unless at the time of a proposed sale pursuant to Rule 144, the issuer has satisfied certain reporting requirements under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

The selling stockholder may also engage in short sales against the box, puts and calls and other transactions in our securities or derivatives of our securities and may sell or deliver shares in connection with these trades.

Broker-dealers engaged by the selling stockholder may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholder (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling stockholder does not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of shares of common stock by a broker-dealer acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. Discounts, concessions, commissions and similar selling expenses, if any, attributable to the sale of shares will be borne by the selling stockholder. The selling stockholder may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares if liabilities are imposed on that person under the Securities Act.

In connection with the sale of the shares of our common stock or otherwise, the selling stockholder may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling stockholder may also sell shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholder may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares.

The selling stockholder may from time to time pledge or grant a security interest in some or all of the shares of our common stock owned by it and, if the selling stockholder defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the shares of our common stock from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus.

The selling stockholder also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus and may sell the shares of common stock from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgees, transferees or other successors in interest as selling stockholders under this prospectus. The selling stockholder also may transfer and donate the shares of common stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholder and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, such broker-dealers or agents and any profit realized on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of common stock is made, a prospectus supplement, if required, will be distributed which will set forth the aggregate amount of shares of common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholder and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers. Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with. There can be no assurance that any selling stockholder will sell any or all of the shares of our common stock registered pursuant to the registration statement of which this prospectus forms a part.

The selling stockholder has informed us that it does not have any agreement or understanding, directly or indirectly, with any person to distribute our common stock.

We are required to pay all fees and expenses incident to the registration of the shares of common stock. Except as provided for indemnification of the selling stockholder, we are not obligated to pay any of the expenses of any attorney or other advisor engaged by the selling stockholder. We have agreed to indemnify the selling stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

If we are notified by the selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares of common stock, we will file a post-effective amendment to the registration statement. If the selling stockholder uses this prospectus for any sale of the shares of our common stock, they will be subject to the prospectus delivery requirements of the Securities Act.

The anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of our common stock and activities of the selling stockholder, which may limit the timing of purchases and sales of any of the shares of common stock by the selling stockholder and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in passive market-making activities with respect to the shares of common stock. Passive market making involves transactions in which a market maker acts as both our underwriter and as a purchaser of our common stock in the secondary market. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

Once sold under the registration statement, of which this prospectus forms a part, the shares of common stock will be freely tradable in the hands of persons other than our affiliates.

LEGAL MATTERS

Nutter, McClennen and Fish, LLP, Boston, Massachusetts, will pass upon the validity of the issuance of the securities to be offered by this prospectus.

EXPERTS

The financial statements and schedule incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated in reliance on the report of OUM & Co., LLP, independent registered public accountants, upon authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference facilities at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference facilities. SEC filings are also available at the SEC's web site at <http://www.sec.gov>.

We have filed with the SEC a registration statement under the Securities Act relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement, at prescribed rates, from the SEC at the address listed above.

The registration statement and the documents referred to below under "Incorporation by Reference" are also available on our Internet website www.eksobionics.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus certain information we file with it, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement. We incorporate by reference the documents listed below that we have previously filed with the SEC (excluding any portions of any Form 8-K that are not deemed "filed" pursuant to the General Instructions of Form 8-K):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 filed on March 15, 2017;
- the portions of our definitive proxy statement on Schedule 14A filed on April 28, 2017 that are deemed "filed" with the SEC under the Exchange Act;
- our Quarterly Reports on Form 10-Q for the fiscal quarter ended March 31, 2017, filed on May 9, 2017, and the fiscal quarter ended June 30, 2017, filed on August 7, 2017;
- our Current Reports on Form 8-K filed on January 6, 2017, March 23, 2017, April 5, 2017, April 26, 2017, May 23, 2017, June 23, 2017, July 25, 2017, August 17, 2017, September 8, 2017, September 19, 2017 and September 22, 2017;
- the description of our common stock contained in our Registration Statement on Form 8-A, filed on May 6, 2015 pursuant to Section 12(b) of the Exchange Act, which incorporates by reference the description of the shares of our common stock contained in our Registration Statement on Form S-1 (File No. 333-195783) filed on May 7, 2014 and declared effective by the SEC on June 20, 2014, and any amendment or report filed with the SEC for purposes of updating such description; and
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, at no cost to the requester, a copy of any or all of the information that is incorporated by reference in this prospectus. Requests for such documents should be directed to: Investor Relations, Ekso Bionics Holdings, Inc., 1414 Harbour Way South, Suite 1201, Richmond, California 94804, (510) 984-1761.

You may also access the documents incorporated by reference in this prospectus through our website at www.eksobionics.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.

This prospectus may contain information that updates, modifies or is contrary to information in one or more of the documents incorporated by reference in this prospectus. You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus is accurate as of any date other than the date of this prospectus or the date of the documents incorporated by reference in this prospectus.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Under the Nevada Revised Statutes, our directors and officers are not individually liable to us or our stockholders for any damages as a result of any act or failure to act in their capacity as an officer or director unless it is proven that:

- His or her act or failure to act constituted a breach of his or her fiduciary duty as a director or officer; and
- His or her breach of these duties involved intentional misconduct, fraud or a knowing violation of law.

Nevada law allows corporations to provide broad indemnification to its officers and directors. At the present time, our Articles of Incorporation and Bylaws also provide for broad indemnification of our current and former directors, trustees, officers, employees and other agents.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Ekso Bionics Holdings, Inc.

20,534,898 Shares of Common Stock

PROSPECTUS

, 2017

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth an itemization of the various expenses, all of which we will pay, in connection with the issuance and distribution of the securities being registered. All of the amounts shown are estimated except the SEC Registration Fee. The selling stockholder will not be responsible for any of the expenses of this offering.

SEC registration fee	\$	3,196
Accounting fees and expenses	\$	10,000
Legal fees and expenses	\$	15,000
Miscellaneous	\$	2,000
Total	\$	<u>30,196</u>

Item 15. Indemnification of Directors and Officers.

Nevada Revised Statutes (NRS) Sections 78.7502 and 78.751 provide us with the power to indemnify any of our directors, officers, employees and agents. The person entitled to indemnification must have conducted himself in good faith, and must reasonably believe that his or her conduct was in, or not opposed to, our best interests. In a criminal action, the director, officer, employee or agent must not have had reasonable cause to believe that his or her conduct was unlawful.

Under NRS Section 78.751, advances for expenses may be made by agreement if the director or officer affirms in writing that he or she has met the standards for indemnification and will personally repay the expenses if it is determined that such officer or director did not meet those standards.

Our by-laws state that we shall indemnify every (i) present or former director, officer, employee or agent of us and (ii) any person who served at our request as a director, officer, member, manager, partner, trustee, fiduciary, employee or agent of another corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise (each an "Indemnitee").

Our by-laws provide that we shall indemnify an Indemnitee against expenses, including attorneys' fees and disbursements, and costs (and in connection with a proceeding other than a proceeding by or in the right of the Company, judgments, fines and amounts paid in settlement) actually and reasonably incurred by such person in connection with any proceeding in which such Indemnitee was, is or is threatened to be named as defendant or respondent, or in which he was or is a witness without being named a defendant or respondent, by reason, in whole or in part, of his serving or having served, or having been nominated or designated to serve, if it is determined that the Indemnitee (a) conducted himself in good faith and in a manner which such Indemnitee reasonably believed to be in or not opposed to our best interests, or with respect to any criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful or (b) is not liable pursuant to NRS Section 78.138; provided, however, that in the event that an Indemnitee is found liable to us, we will have no obligation to indemnify such Indemnitee unless, and only to the extent that the court in which such action or suit was brought or other court of competent jurisdiction determines that, in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses and costs as a court of competent jurisdiction or such other court shall deem proper.

The termination of any proceeding by judgment, order, settlement or conviction, or on a plea of nolo contendere or its equivalent, is not of itself determinative that the Indemnitee did not meet the requirements set forth in clauses (a) or (b) above. An Indemnitee shall be deemed to have been found liable in respect of any claim, issue or matter only after the Indemnitee shall have been so adjudged by a court of competent jurisdiction after exhaustion of all appeals therefrom.

In addition to our by-laws, have entered into an Indemnification Agreement with each of our directors and executive officers pursuant to which we are required to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law and our governing documents. We believe that entering into these agreements helps us to attract and retain highly competent and qualified persons to serve the Company.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Item 16. Exhibits.

The exhibits to this registration statement are listed in the Exhibit Index to this registration statement, which Exhibit Index is hereby incorporated by reference.

Item 17. Undertakings.

- (a) The undersigned registrant hereby undertakes:
1. To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - i. To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - ii. To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
 - iii. To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.
 2. That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
 3. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities, other than the payment by the registrant of expenses incurred and paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding, is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.
- (c) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Richmond, State of California, on October 4, 2017.

EKSO BIONICS HOLDINGS, INC.

By: /s/ Thomas Looby
Name: Thomas Looby
Title: Chief Executive Officer (principal executive officer)

SIGNATURES AND POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Thomas Looby and Maximilian Scheder-Bieschin, or either one of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for such person and in his or her name, place and stead, in any and all capacities, to sign any or all further amendments or supplements (including post-effective amendments filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended) to this registration statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorney-in-fact and agent or either one of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or any of them, or his substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Thomas Looby</u> Thomas Looby	Chief Executive Officer (principal executive officer)	October 4, 2017
<u>/s/ Maximilian Scheder-Bieschin</u> Maximilian Scheder-Bieschin	Chief Financial Officer (principal financial officer and principal accounting officer)	October 4, 2017
<u>/s/ Steven Sherman</u> Steven Sherman	Director and Chairman of the Board	October 4, 2017
<u>/s/ Marilyn Hamilton</u> Marilyn Hamilton	Director	October 4, 2017
<u>/s/ Howard Palefsky</u> Howard Palefsky	Director	October 4, 2017
<u>/s/ Jack Peurach</u> Jack Peurach	Director	October 4, 2017
<u>/s/ Stanley Stern</u> Stanley Stern	Director	October 4, 2017
<u>/s/ Theodore Wang</u> Theodore Wang	Director	October 4, 2017
<u>/s/ Amy Wendell</u> Amy Wendell	Director	October 4, 2017

EXHIBIT INDEX

Exhibit Number	Description
<u>2.1</u>	<u>Agreement and Plan of Merger and Reorganization, dated as of January 15, 2014, by and among the Registrant, Ekso Acquisition Corp., and Ekso Bionics, Inc. (incorporated by reference from Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on January 23, 2014)</u>
<u>4.1</u>	<u>Articles of Incorporation of the Registrant (incorporated by reference from Exhibit 3.1 to the Registrant's Annual Report on Form 10-K filed March 19, 2015)</u>
<u>4.2</u>	<u>Certificate of Merger of Ekso Bionics, Inc., with and into Ekso Acquisition Corp., filed January 15, 2014 (incorporated by reference from Exhibit 3.3 to the Registrant's Current Report on Form 8-K filed on January 23, 2014)</u>
<u>4.3</u>	<u>By-Laws of the Registrant (incorporated by reference from Exhibit 3.4 to the Registrant's Current Report on Form 8-K filed on January 23, 2014)</u>
<u>4.4</u>	<u>Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock, filed on December 23, 2015 (incorporated by reference from Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on December 24, 2015)</u>
<u>4.5</u>	<u>Certificate of Amendment to Certificate of Designation of Series A Convertible Preferred Stock, filed on April 4, 2016 (incorporated by reference from Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on April 7, 2016)</u>
<u>4.6</u>	<u>Certificate of Change of Ekso Bionics Holdings, Inc. effective May 4, 2016 (incorporated by reference from Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on May 5, 2016)</u>
<u>4.7</u>	<u>Form of specimen certificate (incorporated by reference from Exhibit 4.4 to the Registrant's Registration Statement on Form S-3 filed on June 23, 2015)</u>
<u>4.8</u>	<u>Registration Rights Agreement, dated as of January 15, 2014, by and among the Registrant and the investors named therein (incorporated by reference from Exhibit 10.10 of the Registrant's Current Report on Form 8-K filed on January 23, 2014)</u>
<u>4.9</u>	<u>Registration Rights Agreement, dated as of July 19, 2017, by and among the Registrant and the purchasers named therein (incorporated by reference from Exhibit 10.2 of the Registrant's Current Report on Form 8-K filed on July 25, 2017)</u>
<u>5.1</u>	<u>Opinion of Nutter, McClennen and Fish, LLP with respect to the legality of the securities being registered</u>
<u>23.1</u>	<u>Consent of OUM & Co. LLP</u>
<u>23.2</u>	<u>Consent of Nutter, McClennen and Fish, LLP (included in the opinion filed as Exhibit 5.1)</u>
<u>24.1</u>	<u>Powers of Attorney (included on the signature page of this registration statement)</u>



October 4, 2017
114211-4

Ekso Bionics Holdings, Inc.
1414 Harbour Way South
Suite 1201
Richmond, California 94804

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Ekso Bionics Holdings, Inc., a Nevada corporation (the "**Company**"), in connection with the preparation and filing of a Registration Statement on Form S-3 (as the same may be amended, the "**Registration Statement**"), filed by the Company under the Securities Act of 1933, as amended (the "**Securities Act**"), relating to the offer and sale pursuant to the Registration Statement by the selling stockholders identified in the Registration Statement, of up to 20,534,898 shares (the "**Shares**") of the Company's common stock, par value \$0.001 per share.

We have examined such documents and made such other investigation as we have deemed appropriate to render the opinions set forth below. As to matters of fact material to our opinions, we have relied, without independent verification, on certificates and other inquiries of officers of the Company. We have also relied on certificates of public officials.

Based upon and subject to the foregoing, we are of the opinion that as of the date hereof, the issue and sale of the Shares have been duly authorized by all necessary corporate action of the Company, and the Shares are validly issued, fully paid and non-assessable.

We express no opinion as to the laws of any other jurisdiction, other than the Federal laws of the United States of America, the internal laws of the Commonwealth of Massachusetts, and the general corporate law of the State of Nevada as set forth in Chapter 78 of the Nevada Revised Statutes.

This opinion letter shall be interpreted in accordance with the Legal Opinion Principles issued by the Committee on Legal Opinions of the American Bar Association's Business Law Section as published in 53 Bus. Law. 831 (May 1998).

We hereby consent to the filing of this opinion with the Securities and Exchange Commission as an exhibit to the Registration Statement and to the use of our name therein and in the related prospectus under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act, or the rules and regulations of the Securities and Exchange Commission.

* * *



October 4, 2017
Page 2

Very truly yours,

/s/ Nutter, McClennen & Fish, LLP

NUTTER, McCLENNEN & FISH, LLP

EMA/JED/MKK

Nutter McClennen & Fish LLP / 155 Seaport Blvd / Boston, MA 02210 / T: 617.439.2000 / nutter.com

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference, in the Prospectus constituting a part of this Registration Statement on Form S-3 of Ekso Bionics Holdings, Inc., of our reports dated March 14, 2017 relating to the consolidated financial statements and effectiveness of internal control over financial reporting of Ekso Bionics Holdings, Inc. appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

We also consent to the reference to us under the heading "Experts" in the Prospectus.

/s/ OUM & CO. LLP

San Francisco, California
October 2, 2017
