

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

**FORM S-8
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933**

SeaSpine Holdings Corporation

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

47-3251758

(I.R.S. employer identification number)

5770 Armada Drive, Carlsbad, California

(Address of principal executive offices)

92008

(Zip code)

SeaSpine Holdings Corporation 2015 Employee Stock Purchase Plan

(Full title of the plan)

John J. Bostjancic

Chief Financial Officer

SeaSpine Holdings Corporation

5770 Armada Drive

Carlsbad, California 92008

(Name and address of agent for service)

(760) 438-7400

(Telephone number, including area code, of agent for service)

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 | <input type="checkbox"/> | Accelerated filer | <input type="checkbox"/> |
| Non-accelerated filer | <input type="checkbox"/> | Smaller reporting company | <input checked="" type="checkbox"/> |
| | | Emerging growth company | <input checked="" type="checkbox"/> |

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 13(a) of the Exchange Act.

CALCULATION OF REGISTRATION FEE

| Title of securities to be registered | Amount to be registered (1) | Proposed maximum offering price per share | Proposed maximum aggregate offering price | Amount of registration fee |
|--|-----------------------------|---|---|----------------------------|
| Common stock, par value \$0.01 per share | 400,000 shares (2) | \$17.32 (3) | \$6,928,000 | \$839.67 |
| Total | 400,000 shares | -- | \$6,928,000 | \$839.67 |

(1) Pursuant to Rule 416, this registration statement also covers such number of additional shares of common stock that may become issuable under the plan covered by this registration statement by reason of any stock split, stock dividend, recapitalization, or any other similar transaction effected that results in an increase to the number of outstanding shares of the registrant's common stock.

- (2) On November 2, 2018, the board of directors of the registrant approved the issuance of an aggregate of an additional 400,000 shares of common stock under the SeaSpine Holdings Corporation 2015 Employee Stock Purchase Plan, subject to approval by the registrant's stockholders.
- (3) Estimated solely for the purpose of computing the registration fee in accordance with Rules 457(c) and 457(h) on the basis of the average of the high and the low prices of the common stock as reported on the Nasdaq Global Select Market on November 1, 2018.

The Registration Statement shall become effective automatically upon filing in accordance with Rule 462(a) under the Securities Act.

EXPLANATORY NOTE

The registrant previously filed a registration statement on Form S-8 (File No. 333-205334) (the "Prior Registration Statement") with the Securities and Exchange Commission. The Prior Registration Statement was filed in connection with SeaSpine Holdings Corporation 2015 Employee Stock Purchase Plan (the ESPP). This registration statement registers an additional 400,000 shares of the registrant's common stock to be issued pursuant to the ESPP. The contents of the Prior Registration Statement are hereby incorporated by reference into this registration statement pursuant to General Instruction E of Form S-8.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

| Exhibit No. | Exhibit Description | Incorporated by Reference | | | | Filed Herewith |
|-------------|---|---------------------------|----------|---------|-------------|----------------|
| | | Form | File No. | Exhibit | Filing Date | |
| 5.1 | Opinion of Patrick L. Keran, Esq., Vice President, General Counsel of SeaSpine Holdings Corporation | | | | | X |
| 23.1 | Consent of RSM US LLP, Independent Registered Public Accounting Firm | | | | | X |
| 23.2 | Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm | | | | | X |
| 23.3 | Consent of Patrick L. Keran (included in Exhibit 5.1) | | | | | X |
| 24.1 | Powers of Attorney (included on the signature page of this registration statement) | | | | | X |

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-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Carlsbad, State of California, on November 6, 2018.

SEASPINE HOLDINGS CORPORATION

By: /s/ John J. Bostjancic

John J. Bostjancic

Chief Financial Officer

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned officers and directors of SeaSpine Holdings Corporation hereby constitutes and appoints Keith C. Valentine and John J. Bostjancic, and each of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution, for him or her and on his or her behalf and in his or her name, place and stead, in any and all capacities, to sign, execute and file this registration statement under the Securities Act of 1933, as amended, and any one or more amendments to any part of this registration statement, including any post-effective amendments, or appendices or supplements that may be required to be filed under the Securities Act of 1933, as amended, to keep such registration statement effective or to terminate its effectiveness, with all exhibits and any and all documents required to be filed with respect thereto, with the Securities and Exchange Commission or any regulatory authority, granting unto such attorney-in-fact and agent, 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 in order to effectuate the same, as fully to all intents and purposes as he or she himself or herself might or could do, if personally present, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

| Signature | Title | Date |
|---|---|------------------|
| <hr/> /s/ Keith C. Valentine Keith C. Valentine | President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i> | November 6, 2018 |
| <hr/> /s/ John J. Bostjancic John J. Bostjancic | Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i> | November 6, 2018 |
| <hr/> /s/ Kirtley C. Stephenson Kirtley C. Stephenson | Chairman of the Board | November 6, 2018 |
| <hr/> /s/ Stuart M. Essig, Ph.D. Stuart M. Essig, Ph.D. | Lead Independent Director | November 6, 2018 |
| <hr/> /s/ Cheryl R. Blanchard, Ph.D. Cheryl R. Blanchard, Ph.D. | Director | November 6, 2018 |
| <hr/> /s/ Keith Bradley, Ph.D. Keith Bradley, Ph.D. | Director | November 6, 2018 |
| <hr/> /s/ Michael Fekete Michael Fekete | Director | November 6, 2018 |
| <hr/> /s/ John B. Henneman, III John B. Henneman, III | Director | November 6, 2018 |

November 6, 2018

SeaSpine Holdings Corporation
Attn: Board of Directors
5770 Armada Drive
Carlsbad, California 92008

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

I am the Vice President, General Counsel of SeaSpine Holdings Corporation (the "Company").

Reference is made to the registration statement on Form S-8 (the "Registration Statement") filed by the Company with the U.S. Securities and Exchange Commission (the "SEC") on the date hereof under the Securities Act of 1933, as amended. The Registration Statement registers 400,000 shares of the Company's common stock, \$0.01 par value per share (the "Shares"), which may be issued from time to time pursuant to the SeaSpine Holdings Corporation 2015 Employee Stock Purchase Plan (as amended, the "Plan").

This opinion is being furnished in accordance with the requirements of Item 8 of Form S-8 and Item 601(b)(5)(i) of Regulation S-K.

In connection with this opinion, I have examined the Registration Statement, the Company's charter documents, the proceedings taken by the Company with respect to the authorization and adoption of the Plan, and such other documents, records, certificates, memoranda and other instruments as I deem necessary as a basis for the opinion expressed below. With respect to the foregoing documents, I have assumed the genuineness of all signatures, the authenticity of all documents submitted to me as originals and the conformity to originals of all documents submitted to me as copies thereof. I have assumed that (a) shares of common stock currently reserved under the Plan will remain available for the issuance of the Shares, (b) neither the Company's charter documents nor any of the proceedings relating to the Plan or any of the award agreements relating to the Shares, will be rescinded, amended or otherwise modified prior to the issuance of the Shares, and (c) the Company will comply with all applicable notice requirements regarding uncertificated shares in the Delaware General Corporation Law (the "DGCL"). The opinion herein is limited to matters governed by the DGCL.

Subject to the foregoing, I am of the opinion that, as of the date hereof, the Shares have been duly authorized, and when and to the extent the Shares are issued, delivered and paid for in accordance with the terms of the Plan and the award agreements provided for under the Plan, the Shares will be validly issued, fully paid and nonassessable.

I hereby consent to the filing of this letter as an exhibit to the Registration Statement.

Respectfully,

/s/ Patrick L. Keran

Patrick L. Keran

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-8 of SeaSpine Holdings Corporation of our report dated March 2, 2018, relating to the consolidated financial statements, and the financial statement schedule of SeaSpine Holdings Corporation, appearing in the Annual Report on Form 10-K of SeaSpine Holdings Corporation for the year ended December 31, 2017.

/s/ RSM US LLP
Los Angeles, California
November 6, 2018

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of SeaSpine Holdings Corporation of our report dated March 3, 2017 relating to the financial statements and financial statement schedule, which appears in SeaSpine Holdings Corporation's Annual Report on Form 10-K for the year ended December 31, 2017.

/s/ PricewaterhouseCoopers LLP

San Diego, California

November 6, 2018