



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4720

January 15, 2016

John Gandolfo
Chief Financial Officer
Xtant Medical Holdings, Inc.
664 Cruiser Lane
Belgrade, Montana 59714

**Re: Xtant Medical Holdings, Inc.
Registration Statement on Form S-1
Filed December 21, 2015
File No. 333-208677**

Dear Mr. Gandolfo:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

1. Given the nature of the offering and its size relative to the number of shares outstanding held by non-affiliates, the transaction appears to be a primary offering. Because you do not appear to be eligible to conduct a primary offering on Form S-3, you do not appear to be eligible to conduct an at-the-market offering under Rule 415(a)(4). Please revise to fix the price at which the shares will be sold and name the selling securityholders as underwriters. If you disagree, please tell us your basis for determining that the transaction is appropriately characterized as a transaction that is eligible to be made on a shelf basis under Rule 415(a)(1)(i). In your analysis, please address the following among any other relevant factors:
 - The number of shares being offered relative to the number of your currently outstanding shares held by non-affiliates;
 - The number of selling securityholders and the percentage of the overall offering made by each securityholder;

- The date on which and the manner in which each selling securityholder received the shares and/or the overlying securities;
 - The relationship of each selling securityholder with the company, including an analysis of whether the selling securityholder is an affiliate of the company;
 - Any relationships among the selling securityholders;
 - The relationship of each selling securityholder with the company, including an analysis of whether the selling securityholder is an affiliate of the company;
 - Any relationships among the selling securityholders;
 - The dollar value of the shares registered in relation to the proceeds that the company received from the selling securityholders for the securities, excluding amounts of proceeds that were returned (or will be returned) to the selling securityholders and/or their affiliates in fees or other payments;
 - The discount at which the securityholders will purchase the common stock underlying the convertible notes (or any related security, such as a warrant or option) upon conversion or exercise; and
 - Whether or not any of the selling securityholders is in the business of buying and selling securities.
2. We note your disclosure on pages 99, 100 and 102 that certain selling securityholders are broker-dealers. Please identify each of these selling securityholders as underwriters in the Plan of Distribution on page 101.
3. Please update your registration statement to include the disclosures required by Item 402 of Regulation S-K for your last completed fiscal year. For guidance, please refer to Item 217.11 of the Regulation S-K Compliance and Disclosure Interpretations, available on the Commission's website.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement, please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

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- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Tara Keating Brooks at (202) 551-8336 or Mary Beth Breslin at (202) 551-3625 with any questions.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes
Office of Healthcare and Insurance

cc: Jill Gilpin, Esq.