



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

DIVISION OF  
CORPORATION FINANCE

Mail Stop 4546

September 21, 2016

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

**Re: Xtant Medical Holdings, Inc.  
Registration Statement on Form S-1  
Filed August 26, 2016  
File No. 333-213350**

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.

Prospectus Cover Page

1. Please confirm that any preliminary prospectus you circulate will include all non-Rule 430A information, including the volume of securities offered. For guidance concerning disclosure of the principal amount of securities to be offered, please refer to Question 227.02 of the Division of Corporation Finance's Securities Act Rules Compliance and Disclosure Interpretations, available on the Commission's website.

Use of Proceeds, page 34

2. Please revise your disclosure to set forth the approximate amount of proceeds intended for each specified purpose. Refer to Item 504 of Regulation S-K.

The Rights Offering  
Expiration Date; Extension, page 40

3. We refer to your disclosure concerning your option to extend the rights offering in your sole discretion. Please revise here and on the prospectus cover page to indicate whether there is a durational limit applicable to extensions of the offering.

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
- 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.

John Gandolfo  
Xtant Medical Holdings, Inc.  
September 21, 2016  
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Please contact Dorrie Yale at 202-551-8776 or Joseph McCann at 202-551-6262 with any questions.

Sincerely,

/s/ Joseph McCann for

Suzanne Hayes  
Assistant Director  
Office of Insurance and Healthcare

cc: Travis J. Leach, Esq. — Ballard Spahr LLP