



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

October 6, 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
Amended September 28, 2016 and October 6, 2016
File No. 333-213350**

Dear Mr. Gandolfo:

We have reviewed your amended registration statement and have the following 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. Unless we note otherwise, our references to prior comments are to comments in our September 21, 2016 letter.

Prospectus Cover

1. We note your revised disclosures in response to prior comment 1; however, it does not appear that the revised cover page includes space where the volume of each security offered will be disclosed in a pre-effective amendment. Please refer to the second sentence of the prior comment and Regulation S-K, Item 501(b)(2).

What effect will the Rights Offering have on our outstanding Common Stock?. page 3

2. We note that the revised offering includes the issuance of subscription rights to outstanding convertible noteholders. Please revise the Summary to disclose the dollar value of the debt outstanding and the total number of common shares that could be issued to these noteholders pursuant to the subscription. Also, discuss the dilutive impact on

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existing common shareholders. Also, tell us whether common shareholders must approve the issuance of the subscription rights to the noteholders.

Use of Proceeds, page 34

3. We note your revised disclosures in this section in response to prior comment 2. Please also revise to explain briefly how you intend to allocate the proceeds among the two uses if you receive substantially less than the maximum amount of proceeds. For example, please consider disclosing the intended allocation assuming you only raise 50% of the total subscription.

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