

October 28, 2016

VIA EDGAR

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, NE
Washington, D.C. 20549
Attention: Suzanne Hayes, Assistant Director

**Re: Xtant Medical Holdings, Inc.
Amendment No. 4 to Registration Statement on Form S-1
Filed October 21, 2016
File No. 333-213350**

Dear Ms. Hayes:

On behalf of Xtant Medical Holdings, Inc. (the “**Company**”), we respond as follows to the comment letter from the staff (the “**Staff**”) of the Securities and Exchange Commission (the “**Commission**”), dated October 27, 2016, regarding the Company’s Registration Statement on Form S-1, as amended (File No. 333-213350) (the “**Registration Statement**”).

Captions and page references herein correspond to those set forth in Amendment No. 5 to the Registration Statement (“**Amendment No. 5**”), as filed with the Commission on the date hereof. Capitalized terms used but not defined herein have the meanings ascribed to them in the Registration Statement.

Please note that for the Staff’s convenience, we have recited the Staff’s comment and provided the Company’s response to the comment immediately thereafter.

Prospectus Cover

1. *We refer to your disclosure on page 3. Please revise the cover page to disclose the total number of subscription rights that you are distributing collectively to stockholders and noteholders in the offering.*

Response: The cover page of the prospectus in Amendment No. 5 has been revised to disclose the total number of subscription rights that we are distributing collectively to stockholders and noteholders in the offering.

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 406.388.0480  600 Cruiser Ln., Belgrade, MT 59714  info@xtantmedical.com  xtantmedical.com

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The Company hereby acknowledges 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.

If you have any questions, please do not hesitate to contact me at (406) 388-0480, or our counsel, Travis J. Leach of Ballard Spahr LLP, at (602) 798-5444.

Very truly yours,

XTANT MEDICAL HOLDINGS, INC.

/s/ John Gandolfo

John Gandolfo

Chief Financial Officer

cc: Travis J. Leach, Ballard Spahr LLP

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