

June 28, 2016

VIA EDGAR

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: Xtant Medical Holdings, Inc.
Post-Effective Amendment No. 3 to
Registration Statement on Form S-1
Filed June 17, 2016
File No. 333-203492

Dear Ms. Hayes:

On behalf of Xtant Medical Holdings, Inc. (the “Company”), we respond as follows to the Staff’s comment letter, dated June 27, 2016, regarding Amendment No. 1 to Post-Effective Amendment No. 2 to Registration Statement on Form S-1 (“Second Post-Effective Amendment”).

Captions and page references herein correspond to those set forth in Amendment No. 2 to the Second Post-Effective Amendment (the “Amended Second Post-Effective Amendment”) as filed with the Securities and Exchange Commission (the “Commission”) on the date hereof. Capitalized terms used but not defined herein have the meanings ascribed to them in the Amended Second Post-Effective Amendment.

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

Directors and Executive Officers, page 57

- We note your footnote disclosure on page 57 that Paul R. Buckman, Rudy A. Mazzocchi and Eric B. Timko will be appointed as members of your board of directors effective July 2, 2015. Please revise, if true, that these directors will be appointed effective July 2, 2016 and file each nominee’s written consent to be named in the prospectus. Refer to Securities Act Rule 438***

The disclosure in the Amended Second Post-Effective Amendment has been revised in response to the Staff’s comment and Rule 438 Consents executed by each director nominee have been filed with the Amended Second Post-Effective Amendment.

Signatures

2. ***Please revise to provide a current signature of Mr. Gandolfo on behalf of the registrant. In this regard, we note the registrant's signature remains dated April 29, 2016. In addition, to the extent you include the signature of director David Kirschman, please either file an executed power of attorney for Mr. Kirschman or revise the signature page to eliminate the implication that the attorney-in-fact has signed on his behalf.***

The signature page to the Amended Second Post-Effective Amendment has been revised in response to the Staff's comment.

* * * * *

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.

Very truly yours,

XTANT MEDICAL HOLDINGS, INC.

/s/ John Gandolfo

John Gandolfo

Chief Financial Officer

cc: Travis Leach, Ballard Spahr LLP
