



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

Mail Stop 3030

September 28, 2009

John R. Barr
President and Chief Executive Officer
AGA Medical Holdings, Inc.
5050 Nathan Lane North
Plymouth, MN 55442

**Re: AGA Medical Holdings, Inc.
Registration Statement on Form S-1
Amended September 22, 2009
File No. 333-151822**

Dear Mr. Barr:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Corporate History, page 87

1. Please expand your response to prior comment 3 to tell us in detail the nature and history of the dispute and related lawsuit and how the claims were settled. For example, please tell us what was the basis for the "termination of Mr. Afremov's employment" and what were the "various statutory and common law shareholder claims and similar counterclaims" that were made in the litigation. After reviewing your response, we may have further comment.

Medtronic Litigation in the United States, page 104

2. Regarding your response to prior comment 5:

- In the first paragraph on page 104, you describe the three Medtronic “method and apparatus” patents in the litigation, yet in the fourth paragraph you state the claim is “likely” to be reduced by \$14 million because a “method claim outside of the United States cannot infringe on a United States method patent.” Did the jury’s decision cover only the method patents? How were the disputes regarding the apparatus patent resolved? Please clarify.
- Please clarify why you intend to “initiate a process to establish manufacturing operations in Europe for all [your] devices that are sold in international markets” if you believe that future infringement claims would be invalidated due to the *Cardiac Pacemakers* decision.
- Please tell us, with a view toward disclosure, whether you believe that the *Cardiac Pacemakers* decision could be interpreted in a manner that is contrary to the conclusions that you disclose. It is unclear why you believe that it is appropriate to state that a particular result is “likely.”

Government Regulation, page 108

3. Please expand your response to prior comment 5 to tell us whether the changes to your product will require regulatory approval.

Executive Compensation, page 124

4. We note your new disclosure in the third bullet point on page 8 that you will be issuing stock options in connection with this offering. It is unclear why you have not discussed these stock options in your Executive Compensation disclosure. Please revise or advise.

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under

the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. 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 the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

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. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

John R. Barr
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You may contact Jeanne Bennett at (202) 551-3606 or in her absence, Brian Cascio at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Mumford at (202) 551-3637 or me at (202) 551-3617 with any other questions.

Sincerely,

Russell Mancuso
Branch Chief

cc (via fax): John B. Tehan, Esq.
Kenneth B. Wallach, Esq.