

February 12, 2008

Mail Stop 6010

Maurice R. Ferré, M.D.  
President and Chief Executive Officer  
MAKO Surgical Corp.  
2555 Davie Road  
Ft. Lauderdale, FL 33317

**Re: MAKO Surgical Corp.  
Registration Statement on Form S-1  
Filed February 8, 2008  
File No. 333-146162**

Dear Dr. Ferré:

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.

Exhibit 5.1

1. We note from your response to our prior comment 8, your counsel has limited its review of documents to specified items in the opinion, that they believe this provides an “appropriate basis” on which to render the opinion and that your counsel has not independently established the facts or made any investigation or inquiry other than examination of the documents. Please file an opinion based on a review of all legal and factual matters necessary to form the basis of the opinion given.
2. It appears that the charter documents to be effective upon completion of the offering affect your capital stock. If these are the documents that govern the rights of the investors in this offering, please tell us why you believe that you do not need to file an opinion that considers the effects of these documents. Also, if you intend to file an opinion that assumes proper filing of those amendments,

please tell us why you believe it is in the public interest for your registration statement to be declared effective while the risk remains that documents that govern investors' rights as disclosed in your prospectus may not be properly filed.

3. We note your response to prior comment 10. Please confirm that you will file such opinion prior to the acceleration of the effectiveness of the registration statement.

Exhibit 1.1

4. Please tell us the intended use of the document contained in Exhibit H. For example, please describe (1) the manner in which this document will be disseminated, (2) to whom the document will be distributed and (3) when in your offering process will this document be sent. Also provide us your analysis of how the document complies with applicable rules regarding offering communications.

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

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- 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.

You may contact Kevin Kuhar at (202) 551-3662 or in his absence, Angela Crane at (202) 551-3554 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): Stuart A. Barr