

February 7, 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 January 31, 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.

Summary, page 1

1. We note that you may seek acceleration of this registration statement prior to the time that your financial statements become stale. However, you must update your registration statement to include financial statements and related information for the year ended December 31, 2007 if available. If you do not have those financial statements available, please include a recent developments section providing a discussion of any known material results for the quarter ending December 31, 2007.

Principal and Selling Stockholders, page 120

2. We note your new disclosure about the selling stockholder. With a view toward disclosure, please tell us when the selling stockholder acquired its shares being offered and the consideration paid.

3. Please explain how a partial exercise of the over-allotment option will be allocated between you and the selling stockholder.

Report of Independent Registered Public Accounting Firm, page F-2

4. We note your “draft” report for the effect of the reverse stock split described in Note 10. Prior to going effective the audit report should be signed and unrestricted.

Note 6. Commitments and Contingencies, page F-25

5. We note on page 89 that you received a letter from counsel to SensAble that included a proposed licensing fee of \$30 million for additional patents not included in the Sublicense Agreement. Please revise the footnote to disclose or tell us why such disclosure is not needed.

Exhibits

6. Please file complete exhibits. We note you have not filed the attachments to Exhibit 1.1.

Exhibit 10.20

7. We note your statements in this exhibit that some of the attachments are not attached because they are not included in the contract. Please provide us with your analysis of (1) whether the omission of these attachments materially affects the validity or operation of the contract and (2) whether the missing attachments should be filed separately as material contracts.

Exhibit 5.1

8. We note your counsel has limited its review of documents to specified items in the opinion. Please file an opinion based on a review of all legal and factual matters necessary to form the basis of the opinion given.
9. We note section (b) of the opinion of counsel assumes receipt by the “Company” of the consideration for the Selling Stockholder Shares specified in the resolutions of the Board of Directors. Please tell us why your counsel cannot determine that fact. If the company has not yet received the consideration, please tell us how the private placement is complete.
10. We note your counsel’s opinion is dated as of a date prior to the public offering and that the opinion speaks “as of the date hereof.” Please update the opinion to the date the registration statement is to be declared effective.

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.

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MAKO Surgical Corp.  
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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