



DIVISION OF  
CORPORATION FINANCE  
Mail Stop 3030

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

August 25, 2009

Via U S Mail and FAX [(631) 421-5821]

Andrew Makrides  
President, Chairman of the Board  
Bovie Medical Corporation  
734 Walt Whitman Road  
Melville, New York 11747

**Re: Bovie Medical Corporation  
Form 10-K for the fiscal year ended December 31, 2008  
Filed on March 16, 2009  
File No. 1-31885**

Dear Mr. Makrides:

We have reviewed your filings and have the following comments. Where indicated, we think you should revise your documents in response to these comments with the Commission. 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the fiscal year ended December 31, 2008

Item 1. Business

Suture Removal Device, page 5

1. In your future filings, please discuss in greater detail the feedback from the initial studies. Also, discuss the status of the redesign of the device. We note that you included identical disclosure of the suture removal device on page 4 of your Form 10-K for the fiscal year ended December 31, 2007.
2. In your future applicable filings, please ensure that you have included all of the disclosures required by Item 101 of Regulation S-K under Item 1 of your Form 10-K. For example, we note the disclosures regarding your customers, competition and government regulation currently appear on pages 5 through 8 under Item 1A rather than under Item 1.

Item 1A. Risk Factors, page 5

3. Please revise the titles of the risk factors to adequately describe the risk. See Item 503(c) of Regulation S-K.

Item 4. Submission of Matters to a Vote of Security Holders, page 10

4. In your future filings, please include all of the information required by Item 4 of Form 10-K as this information cannot be incorporated by reference from your proxy statement, and would not contain the information required by Item 4(c) with respect to the number votes on each matter.

Item 5. Market for Registrant's Common Equity and Related Stockholder Matters, page 11

5. In your future filings, please include the disclosure required by Item 701 of Regulation S-K. For example, we note the disclosure on page F-6 of the issuance of shares; however, it does not appear that you have provided the disclosure required by Item 701 in this or any of your other Exchange Act filings.

2008 Compared with 2007, page 16

6. We note your sales declined 2.4% primarily driven by the 5.3% decline in domestic sales. In you future filings, please discuss and analyze the primary factors driving any significant changes in the line items being compared period over period. For example, your disclosure should indicate why you have

experienced any significant increases or decreases in international or domestic sales for the periods compared.

Liquidity and Capital Resources, page 19

7. We note from your disclosure in this section that your net cash provided by operating activities was materially affected by your build up in inventories and trade receivables. In your applicable future filings, please disclose the trends driving your cash requirements for increasing inventory. For example, your disclosure should address the sales, business or product trends that are driving your need to increase inventory.

Item 8. Financial Statements and Supplementary Data, page 24

Note 13. Gain from Contract Settlement, page F-21

8. We note that the gain on settlement of your contract with Boston Scientific is significant, representing 82% of net income for 2008. Please tell us the nature of the settlement and the related accounting treatment. Clarify the basis in GAAP for recognizing the entire gain in fiscal 2008, and explain why this should not be recorded over the term of the new license agreement. Please tell us whether there are any future performance obligations related to this settlement. In addition, tell us why you have included the gain in other income (expense), rather than in income from operations.

Item 12. Security Ownership of Certain Beneficial Owners and Management, page 36

9. In your future filings, please provide the disclosure required by Item 201(d) of Regulation S-K.

Item 13. Certain Relationships and Related Transactions, page 38

10. In future filings, please provide the disclosure required by Item 404(b) of Regulation S-K.

Signatures, page 40

11. We note your signatures page indicates the incorrect year. Please revise.
12. Your principal executive officer or officers, principal financial officer or officers, controller or principal accounting officer, and at least a majority of the board of directors should sign the report below the second paragraph required on the

Signatures page. We note that no person has signed the report below the second paragraph. Please revise.

Exhibit Index, page F-26

13. In future filings, please expand the exhibit index to list documents filed as part of the report as required by Item 15 of Regulation S-K.
14. Please tell us where you filed as exhibits the following:
  - The agreements with Boston Scientific Corporation mentioned in the third and fourth paragraphs on page 3;
  - The October 2006 agreement to acquire the assets of Lican Developments LTD mentioned in the fifth paragraph on page 5;
  - The amended manufacturing agreement with Arthrex Corporation mentioned in the first paragraph on page 6;
  - The amended employment agreements with Messrs. Makrides, Saron and Citronowicz subsequent to your January 6, 2004 amended employment agreements with them. We note the disclosure on page 33 that the agreements have been extended to January 2012; and
  - The October 10, 2006 agreement with Mr. Livneh and the June 18, 2007 employment contract with Mr. Pickett mentioned in the first two paragraphs on page 34.

If you did not file an agreement as an exhibit, please provide us with your analysis as to why the agreement does not need to be filed as required by Item 601(b)(10) of Regulation S-K.

15. Please tell us where you filed as an exhibit the January 2006 agreement mentioned on page 4. It appears from the exhibit index of your Form 10-K for the fiscal year ended December 31, 2007 that you filed the agreement as Exhibit 10.11 to the Form 10-K; however, the agreement was not filed as an exhibit to that filing.

Form 10-Q for the quarter ended March 31, 2009; and  
Form 10-Q for the quarter ended June 30, 2009

16. We note that the certifications filed pursuant to Exchange Act Rule 13a-14(a) are not in the exact form prescribed by Item 601(b)(31) of Regulation S-K. Specifically, we note that you replaced the word “report” with “annual report” in paragraphs 2 and 3 of your Form 10-Q for the quarter ended March 31, 2009. In

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your future filings, please ensure that the certifications conform to the exact wording required by Item 601(b)(31) of Regulation S-K.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a response letter that keys your responses to our comments and provides the requested information. Confirm that you will comply with these comments in all future filings with the Commission. Detailed response letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments and the requested information.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing reviewed by the staff to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed 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.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments 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 our review of your filing or in response to our comments on your filing.

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You may contact Jeanne Bennett at (202) 551-3606, or Brian Cascio, Accounting Branch Chief at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Thomas Jones at (202) 551-3602 or me at (202) 551-3635 with any other questions.

Sincerely,

Timothy Buchmiller  
Senior Attorney