



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

Mail Stop 6010

September 14, 2007

Mr. Fabian Tenenbaum
Chief Financial Officer
Syneron Medical LTD.
Industrial Zone, Yokneam Illit, 20692
P.O.B. 550, Israel

**RE: Syneron Medical LTD.
Form 20-F for the year ended December 31, 2006
File No. 0-50867**

Dear Mr. Tenenbaum:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your future documents 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.

Form 20-F for the year ended December 31, 2006

Note 2 – Significant Accounting Policies, page F-11

Warranty, page F-18

1. We note that your total warranty liability was \$1.4 million and \$2.4 million at December 31, 2006 and 2005, respectively. If material, please revise future filings to provide the warranty roll forward disclosures required by paragraph 14(b) of FIN 45.

Note 13 – Income Taxes, page F-33

2. We note that you have recorded a full valuation allowance against your deferred tax assets, as you believe it is more likely than not that your loss carryforwards will not be realized due to the history of subsidiary losses. We further note that 57% of your 2006 revenues were generated in North America. Please tell us and revise future filings to explain in greater detail the factors you considered in concluding that it was more likely than not that you would not realize any of your US loss carryforwards. Please refer to the guidance in paragraphs 20-25 of SFAS 109.

Forms 6-K filed August 8, 2007 and February 21, 2007

3. We note your presentation of non-GAAP financial measures in the form of a non-GAAP statement of income. This format may be confusing to investors as it reflects several non-GAAP measures, including non-GAAP cost of revenues, non-GAAP gross profit, non-GAAP operating expenses, non-GAAP operating income, non-GAAP income before income taxes, and non-GAAP net income. In fact, it appears that management does not use these non-GAAP measures but they are shown here as a result of the presentation format. Please note that Regulation G requires you to provide detailed disclosures for **each** non-GAAP measure presented and explain why you believe **each** of the measures provides useful information to investors.
 - To eliminate investor confusion, please remove the non-GAAP statement of income from all future filings and instead disclose only those non-GAAP measures used by management that you wish to highlight for investors with the appropriate supplemental disclosures. Alternatively, you may tell us why you believe your presentation of these non-GAAP financial measures is appropriate under Regulation G, including, as applicable, why you believe you meet the scope exception set forth in Item 100(c) of Regulation G.

- Please note that in the event that your Form 6-K is incorporated by reference into a 33 Act registration statement, we may have additional questions relating to the appropriateness of this information being included in a document filed with, and not just furnished to, the Commission. At that time, we may request an amendment to the Form 6-K. Refer to Question 31 of the FAQ Regarding the Use of Non-GAAP Financial Measures dated June 13, 2003.

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 cover letter 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 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 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.

Mr. Fabian Tenenbaum
Syneron Medical LTD.
September 14, 2007
Page 4

You may contact Eric Atallah, Staff Accountant at (202) 551-3663 or me at (202) 551-3643 regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact, Martin James, Senior Assistant Chief Accountant at (202) 551-3671 with any other questions.

Sincerely,

Kevin L. Vaughn
Branch Chief