



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

August 25, 2016

Via E-mail

Amit Meridor
Chief Executive Officer
Syneron Medical Ltd.
Industrial Zone, Tavor Building P.O. Box 550
Yokneam Illit 20692 Israel

**Re: Syneron Medical Ltd.
Form 20-F for the Fiscal Year Ended December 31, 2015
Filed March 21, 2016
Form 6-K filed August 11, 2016
File No. 001-34559**

Dear Mr. Meridor:

We have reviewed your August 11, 2016 response to our comment letter and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our July 14, 2016 letter.

Form 20-F for the Fiscal Year Ended December 31, 2015

Item 18. Financial Statements

Note 4. Fair Value Measurement, page F-37

1. We note your response to comment 5 and that for the purposes of the income significance calculation test pursuant to Rule 1-02(w) of Regulation S-X you utilized the average income approach. Since you reported a loss attributable to your shareholders before income taxes for fiscal years 2010 through 2014, please explain how you considered computational note 2 to Rule 1-02 (w), which indicates that any loss years should be omitted for purposes of computing average income. It appears that your investment in

Illuminage Beauty is significant to 2014 at a level substantially greater than 20%. Please revise your filing to include Illuminage Beauty's financial statements pursuant to Rule 3-09(a) of Regulation S-X. Alternatively, you may request a waiver of the requirements of Rule 3-09 of Regulation S-X from our Division's Office of Chief Accountant.

Form 6-K filed August 11, 2016

2. Please revise your presentations of non-GAAP measures in future filings to consistently use titles for the measures that are clearly distinguishable from the comparable GAAP titles. For example, revise the discussions throughout the filing to use the same titles as those used in the reconciliation tables, such as non-GAAP gross profit, non-GAAP operating income, non-GAAP net income, and non-GAAP net income per share.
3. We note that in May, you sold your dental laser subsidiary. We also note that on page 10 you present unaudited non-GAAP condensed consolidated statements of operations on a pro forma basis excluding Light Instruments for quarterly periods from March 2015 through June 2016. In future filings, please revise the presentation to include an explanation of what the pro forma information represents and include columns to show both the historical GAAP financial information and the pro forma adjustments used to derive the pro forma amounts.
4. In future filings, please revise your presentation of the non-GAAP quarterly statements of operations to provide all the information required by Regulation G, including a presentation of the most directly comparable GAAP financial measure and a quantitative reconciliation of each non-GAAP measure presented to the most directly comparable GAAP financial measure. Also, revise the presentation to use titles for your non-GAAP financial measures that are clear and consistent and that are not confusingly similar to GAAP titles.

You may contact Tara Harkins at (202) 551-3639, or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 with any questions. You may also reach me at (202) 551-3671.

Sincerely,

/s/ Kate Tillan for

Martin James
Senior Assistant Chief Accountant
Office of Electronics and Machinery