



DIVISION OF  
CORPORATION FINANCE

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

September 2, 2011

Via E-mail

Gordon E. Nye  
President and Chief Executive Officer  
ZELTIQ Aesthetics, Inc.  
4698 Willow Road, Suite 100  
Pleasanton, CA 94588

**Re: ZELTIQ Aesthetics, Inc.  
Registration Statement on Form S-1  
Amended August 17, 2011  
File No. 333-175514**

Dear Mr. Nye:

We have reviewed your registration statement 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 this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Our Business, page 1

1. We note your response to prior comment 2; however, your summary does not present disclosure of the risks and drawbacks of your product as prominently as your disclosure of the benefits of your products. As one limited example, we note the last sentence in the first paragraph provides unbalanced disclosure of the benefits of your technology. Therefore, we reissue the prior comment. Please revise your summary accordingly.
2. The first sentence in the third paragraph implies that you only market to physicians, yet your risk factor on page 18 states that such a limitation is only for your sales in the United States. Please revise or advise.
3. Refer to the third paragraph of this section. Please tell us how you determine whether a potential customer has "significant experience" in performing aesthetic procedures.

4. In your response to prior comment 3, you state that no geographic region or specific country has been responsible for a materially disproportionate amount of your revenues generated outside of North America. With a view to disclosure, please tell us the percentage of revenues accounted for by each of your four geographic regions as of the fiscal year end and the most recent stub period.

Market Overview, page 2

5. We note your response to prior comment 4. It remains unclear why you believe it is appropriate to categorize your market opportunity so broadly as to include individuals who may not need or be eligible for a product such as yours. In this regard, defining your market to include “non surgical procedures designed to maintain, restore or enhance a patient’s appearance” would appear over-inclusive. Please revise your disclosure or advise us further on your reasons for identifying such a large target market.
6. With regard to prior comment 5, we note the materials you have provided in response to our comment are not marked to show how the statements in the materials support your statements in the registration statement; rather you have provided extensive materials without providing references within those extensive materials. As such, we reissue that part of the comment asking for you to mark the supporting materials so that they are tied to the disclosure.
7. Also, with regard to prior comment 5, we note that your response references the results of a number of studies. However, it remains unclear why you have not added disclosure stating such results are based on limited clinical trials. For example, your first human clinical studies measured 10 subjects, your pivotal study covered 60 subjects and your pre-abdominoplasty study covered 180 subjects. We also note that the independent studies and patient satisfaction study mentioned in your response each appear to have involved no more than 25 subjects. Please revise your disclosure in the prospectus accordingly.

Our Solution, page 2

8. In the first paragraph of this section you state that “patients who are obese are not optimal candidates for your procedure.” However, your disclosure does not explain why they are not optimal candidates. With a view towards disclosure, please explain. Also, if your product cannot effectively be used by obese patients, please revise your disclosure to clarify that such patients are not viable candidates for your procedure. In this regard, your current disclosure that obese patients are “not optimal candidates” continues to suggest that this population remains part of your potential market.

Excellent Safety Profile, page 2

9. In the final sentence of the first paragraph of your response to prior comment 6, you state that none of your patients “have necessitated medical intervention to prevent impairment or damage to bodily function or structure.” Please reconcile this statement with your disclosure in this section that adverse effects from the treatment are “*generally* temporary.” [*Emphasis added*]. Also, with a view to disclosure, please tell us whether you have observed similarities among complainants which suggest that certain patients are more likely to experience adverse effects than others.

The Offering, page 6

10. Please disclose the amount to be paid to MGH under the “Use of proceeds” heading on page 6. In addition, please disclose, if true, that other than your remaining milestone payment obligations to MGH, you have not identified the amounts you plan to spend on the identified uses or the timing of these anticipated expenditures.
11. We note your response to prior comment 9 and reissue the comment. Please tell us why you will not amend and restate prior to effectiveness and what assurances investors will have that these actions will occur.

We and our contract manufacturers..., page 21

12. In your response to prior comment 14, you state that you have clarified your disclosure; however, it does not appear you have made any revisions to the risk factor heading or related disclosure in response to this comment. Please make appropriate revisions.

We rely on a license relationship..., page 25

13. We note the 7% royalty on net sales of the CoolSculpting System. Please disclose, if different, the royalty payable on future products incorporating the intellectual property licensed from MGH.

Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 42

Critical Accounting Policies and Estimates, page 45

Stock-based Compensation, page 46

14. We note your response to prior comments 24 – 27. Please note that we are deferring any final evaluation of stock compensation until the estimated offering price is specified and all of the requested information is provided, and we may have further comments in that regard when you file the amendment containing that information.

15. We note your response to prior comment 23 and that you utilized peer companies that were generally larger and operationally further developed than you. Please respond to the following comments:
- Please explain to us in more detail how you complied with the guidance in 718-10-55-37(c) of the FASB Accounting Standard Codification.
  - In order to gain a better understanding of how you determined your expected volatility, please provide us the names of the comparable companies used and how these companies are comparable to you in stage of their lifecycle, capitalization, and scope of operations, product composition, etc.
16. For your stock options granted on May 18, 2011, July 27, 2011, and July 29, 2011, please describe in more detail how you determined the significant assumptions used in the valuations. Specifically, please discuss how you determined the discount rate, the adjustment for illiquidity, the estimated holding periods, etc.

Business, page 66

17. We note limited revisions in response to prior comment 32. As previously noted by the staff, you must provide balanced disclosure regarding the positive and negative aspects of your offering. As such, we reissue our prior comment.

Physician Marketing and Support Programs, page 81

18. We note your response to prior comment 36 and reissue in part. Please revise to clarify whether the S.T.E.P. program is part of the normal training required prior to the operation of your product or a voluntary supplemental program. To the extent S.T.E.P is a voluntary supplemental program, please clarify the nature and extent of the base level support and training provided to all customers.

Customer Support, page 81

19. We note your response to prior comment 37. However, it remains unclear whether your customer care team members visit physicians onsite to service and repair CoolSculpting Systems or, alternatively, arrange by telephone for servicing visits to be conducted by third-parties. If the former, please describe the size and geographic coverage of your service teams and explain how you are able to assure that service will be prompt. In this regard, we note your disclosure that your customer care staff consists of 11 employees housed in Pleasanton, California.

Competition, page 83

20. We note your response to prior comment 38. Please expand your disclosure to more fully identify and describe the “energy based technologies as well as other aesthetic products and technologies” you identify in your revised disclosure.
21. We note that this section has been revised to remove reference to minimally-invasive procedures. We also note similar revisions to your risk factor on page 15. Please tell us why you no longer believe that these procedures should be considered competitive with your products.

MGH License Agreement, page 84

22. We note your response to prior comment 39; however, it remains unclear why you cannot disclose the cap on the total percentage of stock that MGH may own. Further, we note you have not yet filed this agreement as an exhibit. Please file this agreement with your next amendment.

General Information, page 90

23. Please expand your response to prior comment 34 to provide investors with a better understanding of your corporate history.

Director Independence, page 96

24. Please tell us where you have disclosed that Mr. Stockman will resign from the audit committee prior to the first anniversary of the consummation of the initial public offering.

Base Salary, page 103

25. We note your response to prior comment 46. However, you do not appear to have disclosed how the compensation committee determined each named executive officer’s salary. Instead, you have described certain factors that are considered. Please provide an individual compensation analysis. To the extent the committee’s decisions were based upon subjective rather than objective criteria, please provide for each named executive officer a specific discussion of the roles, responsibilities, and accomplishments (and/or shortcomings) that formed the bases for the board’s subjective determinations.

Stock Based Incentive Awards, page 107

26. We note your response to prior comment 47. It remains unclear how the number of option awards for each executive were determined by the committee. For example, we note your CEO received nearly three times as many options as your second most-highly compensated executive who, in turn, received nearly three times more than the third

most-highly compensated executive. Please provide the bases for these awards and explain any disparities among your named executive officers. To the extent the committee's decisions were based upon subjective rather than objective criteria, please provide for each named executive officer a specific discussion of the roles, responsibilities, and accomplishments (and/or shortcomings) that formed the bases for the board's subjective determinations.

27. We note your response to prior comment 48. To the extent that the vesting of option awards is based upon milestones, rather than the lapsing of time, please disclose the milestones and the shares held by your named executive officers that are subject to milestone vesting.

Post-Employment Compensation, page 108

28. Please expand your disclosure to describe the terms of the severance agreements with Mr. Levinson and Ms. Newman. Also, please tell us why you have not filed your agreement(s) with Ms. Newman as exhibit(s).
29. Please tell us where you have disclosed the continued and accelerated vesting schedule described in section (iii) of Exhibit 10.22. See also Item 402(e)(1)(ii).

Principal Stockholders, page 121

30. In your response to prior comment 51 you state that there is "no individual person" who has beneficial ownership over the shares described in footnote 6. Please tell us why you are unable to identify the natural persons who have or share beneficial ownership over the shares described in footnote 6.

Brazilian Distribution Agreement, page 124

31. Please tell us where you have filed this agreement as an exhibit.

Item 15, page II-2

32. Please tell us why you have not included the weighted average exercise price for options granted under your 2005 stock option plan. To the extent you granted options to consultants, please describe the services and consideration received by the company.

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 the information the Securities Act of 1933 and all applicable Securities Act rules require. 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 you request acceleration of the effective date of the pending registration statement please provide a written statement from the company 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.

Please refer to Rules 460 and 461 regarding requests for acceleration. 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. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Tara Harkins at 202-551-3639 or Kevin Vaughn, Accounting Branch Chief, at 202-551-3643 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Mumford at 202-551-3637 or Daniel Morris, Special Counsel, at 202-551-3314 with any other questions.

Sincerely,

/s/ Daniel Morris for

Amanda Ravitz  
Assistant Director

cc (via e-mail): Jeffery C. Thacker, Esq.