

Mail Stop 0306

June 8, 2006

Ms. Diane J. Ryan
VP Finance and Chief Financial Officer
Implant Sciences Corporation
107 Audubon Road, #5
Wakefield, MA 01880

RE: **Implant Sciences Corporation**
Form 10-KSB for the fiscal year ended June 30, 2005
Filed October 13, 2005
File No. 1-14949
Form 10-QSB for the period ended September 30, 2005
Filed November 21, 2005

Dear Ms. Ryan:

In connection with our financial statement only review of Implant Sciences Corporation Form 10-KSB and subsequent Exchange Act filings, we have the following additional accounting comments.

Form 10-Q for the period ending September 30, 2005

General

1. Please refer to prior comments 6 and 7. We note your proposed revised disclosure regarding the correction of the errors for the period September 30, 2005. The restated financial statement must be labeled "restated." The financial statements must also include all the disclosures required by SFAS 154, paragraph 26. Please revise as necessary. Any adjustments arising from our additional comments should also be repeated in this manner so that there is a clear path between the original and restated quarterly data.

Condensed Consolidated Balance Sheets, Page 3

2. Please refer to prior comment 8. We have read your responses to our prior comments and have the following additional comment:
 - We note your proposed revised disclosure to adjust the term “beneficial conversion feature” on your balance sheet for your quarter ended September 30, 2005. Please amend your quarter ended December 31, 2005 as well. Any adjustments arising from our additional comments should also be considered.

Condensed and Consolidated Statements of Cash Flows, page 5

3. Please refer to prior comment 9. We do not see where your statement of cash flows has been amended to properly disclose the non-cash financing activity related to the issuance of the Series D convertible preferred stock. Please revise or tell us why your current presentation is appropriate. This comment also applies to your quarter ended December 31, 2005.

Note 8. Secured Term Note and Series D Financing, page 12

4. Please refer to prior comment 10. With respect to the valuation of the dividend adjustment, please note that B15 of SFAS 133 requires that you account for all embedded derivatives of a single host as one. Please revise or advise.
5. We note the proposed disclosure in Note 8 to the draft amended Form 10-Q for the period ended September 30, 2005. It appears that an event of default would result in (i) a reset of the dividend rate from prime plus 1 to 15%, and (ii) a right granted to the holder to request redemption of the Series D Preferred Stock for cash equal to 130% of the outstanding stated value, plus any accrued and unpaid dividends.
 - Provide us with your separate analysis of whether these features are embedded derivatives that should be bifurcated pursuant to paragraphs 12 and 13 of SFAS 133.
 - Specifically address how you considered paragraphs 61a, 61c and 61d in your analysis. We note, for instance, that an event of default is not limited to creditworthiness of the company but includes delisting, stop trade and failure to deliver common stock. Likewise, we note the additional 30% payment you will be required to make in the event of default.

6. We note the disclosure that you concluded that the features were not derivatives pursuant to SFAS 133 because they did not include a net settlement provision. Please explain the reasons for your conclusion, especially in light of the fact that the agreement specifically states that the amounts are to be paid in cash. See paragraphs 6(c) and 9 of SFAS 133.
7. Please refer to prior comment 11. Revise to disclose the price re-set feature of the Series D preferred stock and related accounting; and how you accounted for the warrants, including the valuation methodology and related assumptions.
8. Please refer to prior comment 13. We note that you would interpret the guidance in View A as outlined in 05-04 as most closely representing your agreements and their relationships. Although this issue is still pending and the EITF has not reached a consensus, you are still required to have an accounting policy in the interim. Please revise to disclose your accounting policy as it relates to your accounting and classification of your warrants and registration rights agreements.
9. We note in your response to prior comment 8, you indicate that your warrants have no registration rights. Please tell us your consideration of paragraph 2(a) in the Registration Rights Agreement (Exhibit 10.2) dated September 30, 2005 filed with your Form 8-K dated October 5, 2005, which includes all “registrable securities” as defined as “shares of common stock issued upon conversion of the Series D Preferred Stock and issuable upon exercise of the warrants.”

Management’s Discussion and Analysis, page 15

Liquidity and Capital Resources

10. We note your references to a valuation based upon an independent appraiser. If you intend to incorporate your filings by reference into your Form S-3, you must specifically identify each appraiser as an expert and include his consent in the registration statement. Alternatively, you could eliminate this reference and clearly indicate that management is primarily responsible for determining the valuation. We will not object if you wish to state that management considered a number of factors, including valuations or appraisals, when making these determinations. Refer to Rule 436 of Regulation C and Item 601(b) of Regulation S-K.

Critical Accounting Policies

11. Please refer to prior comment 14. Revise this section to clearly disclose the methodology and significant estimates/assumptions used to value derivatives. Refer to the guidance provided in SEC Release No. 33-8350.
12. In this regard, in light of the on-going discussions surrounding EITF 05-04, please include a clear discussion of the status of EITF 05-04 in this section of your filing which discloses the view adopted by the company and how your accounting could be impacted by a final outcome that is different from the view that you have applied.

Item 4. Controls and Procedures

13. Please refer to prior comment 15. We note in your response that management has concluded that the disclosure controls are now effective. Please tell us if the disclosure controls and procedures were effective for the periods ending September 30, 2005 and December 31, 2005. If not, please revise to clarify.

Form 10-QSB for the periods ended December 31, 2005 and March 31, 2006

General

14. Revise your Form 10-QSB's to comply with the above comments, as applicable.

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 with your response that keys your responses to our comments and provides any requested supplemental information. Detailed cover letters greatly facilitate our review. Please file your cover letter on EDGAR. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Dennis Hult, Staff Accountant, at (202) 551-3618 or me if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3554 with any other questions. In this regard, do not hesitate to contact Martin James, Accounting Branch Chief, at (202) 551-3671.

Sincerely,

Angela J. Crane
Accounting Branch Chief