

Mail Stop 6010

June 27, 2006

VIA U.S. MAIL and FACSIMILE (714) 649-5102

William R. Abbott  
Cardiogenesis Corporation  
26632 Towne Center Drive  
Suite 320  
Foothill Ranch, California 92610

**RE: Cardiogenesis Corporation  
Form 10-K for the fiscal year ended December 31, 2004  
Filed March 31, 2005  
Form 10-Q for the quarter ended September 30, 2005  
File No. 000-28288**

Dear Mr. Abbott:

We have reviewed your response dated June 13, 2006 and related filings and have the following comments. Where indicated, we think you should revise your filing 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 10-Q for the quarter ended September 30, 2005

Condensed Consolidated Financial Statements

Note 4. Legal Proceeding

1. We see that you have recorded \$600,000 of expense due to the settlement of litigation within non operating income (expense), net. The litigation was related to an employment agreement with a former member of management. Since the employment agreement appears to relate to your operations, please tell us why you should not record the settlement within operating income (loss). For classification guidance refer, by analogy, to the presentation guidance from Interpretive Question 2 to the presentation and disclosure guidance from SAB Topic 5-P. Please note that, in general, charges and credits related to operating activities, such as employment matters, should themselves be reported in operating earnings or loss.

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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 information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Kristin Lochhead, Staff Accountant, at (202) 551-3664 or me at (202) 551-3605 if you have any questions. In this regard, do not hesitate to contact Brian Cascio, Accounting Branch Chief, at (202) 551-3676.

Sincerely,

Gary Todd  
Reviewing Accountant