



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 6010

June 6, 2008

VIA U.S. MAIL and FACSIMILE (949) 420-1875

William R. Abbott  
Chief Financial Officer  
Cardiogenesis Corporation  
11 Musick  
Irvine, CA 92618

**RE: Cardiogenesis Corporation**  
**Form 10-KSB for the fiscal year ended December 31, 2007**  
**Filed March 25, 2008**  
**File No. 000-28288**

Dear Mr. Abbott:

We have reviewed your filing and have the following comments. We have limited our review of your filing 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 document 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-K for the fiscal year ended December 31, 2007

Note 2. Summary of Significant Accounting Policies, page F-7

Revenue Recognition, page F-9

1. We reference the disclosure of sales agreements that contain multiple elements or non-standard terms and conditions and that you use EITF 00-21 to account for such arrangements. Please tell us and revise future filings to disclose the units of accounting contained in your arrangements, how you determine fair value of the delivered and undelivered elements, and when you recognize revenue for each element.

Exhibits 31.1. and 31.2

2. We note that you omitted the introductory language in paragraph 4 of Item 601(b)(31) of Regulation S-B, which refers to internal control over financial reporting. Please file an abbreviated amendment to the Form 10-KSB that includes a cover page, explanatory note, signature page and paragraphs 1, 2, 4 and 5 of the certification. Please ensure that the certification is in strict compliance with Item 601(b)(31) of Regulation S-B.

Form 10-Q for the fiscal quarter ended March 31, 2008

Note 2. Summary of Significant Accounting Policies, page 6

Investments in Marketable Securities, page 7

3. We see that you purchased auction rate securities during the quarter and that you also adopted SFAS 157 on January 1, 2008. Please tell us where you have provided the relevant disclosures required by paragraph 32 of SFAS 157 for the valuation of the auction rate securities. Refer also to paragraph 39 of SFAS 157.
4. As a related matter with respect to the auction rate securities, please provide us the following:
  - Identify the issuers and the underlying assets;
  - Describe all key terms of the securities, including but not limited to, maturity dates, auction reset provisions, interest and interest rate reset provisions;
  - Describe the nature and extent of collateral underlying the auction rate securities;
  - Describe the valuation technique(s) used, including models and key assumptions and the basis for those assumptions;

- If you considered and relied on more than one model in valuing the securities, please be specific. In that regard, please also address how you weighted the models and evaluated any differences in the resulting valuations, including the bases for your determinations.

Your response should fully explain how you determined the fair value of the auction rate securities as of March 31, 2008. We may have further comment about disclosure upon reviewing your response.

5. We see that on May 15, 2008 you filed a Form 8-K reporting Item 2.06 "Material Impairments." Also on that date you filed the Form 10-Q for the quarter ending March 31, 2008 disclosing that you believe that any impairment of the available for sale auction rate securities is temporary and insignificant. Please tell us the amount of the unrealized loss as of March 31, 2008. Also explain why you should not disclose the amount in the financial statements, and if not other than temporary, apply the accounting specified in paragraph 13 of SFAS 115 for unrealized losses.
6. You disclose that the market value of available for sale securities is based on market quotes. Please reconcile that disclosure with the disclosure that auction rate securities, which comprise all of your available for sale securities, experienced failed auctions during 2008. Please tell us whether you in fact obtained quoted market prices for the auction rate securities as of March 31, 2008, tell us the source of those quotes and the quoted price. With respect to broker estimates, please clarify how the estimates were determined and whether they represent firm offers to buy or sell securities. In addition, clarify how the broker estimates were used in determining estimated fair value. If these estimates are not based on offers to buy or sell the securities please provide the basis for your reliance on those estimates.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 13

Critical Accounting Policies and Estimates – Investments in Marketable Securities, page 17

7. Regarding your auction rate securities, please revise future filings to include the following disclosures within MD&A:
  - a. A general description of the valuation techniques or models you used with regard to your material assets or liabilities. Please also discuss the significant assumptions underlying the method in used in valuing the auction rate securities;

- b. A discussion of how sensitive the fair value estimates for your material assets or liabilities are to the significant inputs the technique or model uses. For example, consider providing a range of values around the fair value amount you arrived at to provide a sense of how the fair value estimate could potentially change as the significant inputs vary.

We refer you to the sample letter sent to public companies on MD&A disclosure regarding the application of SFAS 157, available at <http://sec.gov/divisions/corpfin/guidance/fairvalue/tr0308.htm> for a discussion of other disclosures that may be applicable to your valuation of auction rate securities.

Exhibits 31.1. and 31.2

8. We note that you omitted the introductory language in paragraph 4 of Item 601(b)(31)(i) of Regulation S-K and that you omitted paragraph 4(b) of Item 601(b)(31)(i) of Regulation S-K, both of which refer to internal control over financial reporting. Please file an abbreviated amendment to the Form 10-Q that includes a cover page, explanatory note, signature page and paragraphs 1, 2, 4 and 5 of the certification. Please ensure that the certification is in strict compliance with Item 601(b)(31)(i) of Regulation S-K.

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.

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

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- 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.

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

Sincerely,

Gary Todd  
Reviewing Accountant