



DIVISION OF
CORPORATION FINANCE

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

January 6, 2012

Via E-Mail

Jeffrey Mathiesen
Chief Financial Officer
Sunshine Heart, Inc.
7651 Anagram Drive
Eden Prairie, Minnesota 55344

**Re: Sunshine Heart, Inc.
Amendment No. 2 to Form 10
Filed December 29, 2011
File No. 001-35312**

Dear Mr. Mathiesen:

We have reviewed your filing 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 providing the requested information, or by advising us when you will provide the requested response. 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 filing and the information you provide in response to these comments, we may have additional comments.

Clinical Development, page 2

1. We note your disclosure that you have not yet implanted any additional patients permitted by the FDA. Please revise to clarify whether you plan on implanting the 20 additional patients and adding the two centers, and if so, when you plan on doing so. Please also clarify if these additional patients and two centers would be part of the "pivotal trial."

Manufacturers and Suppliers, page 3

2. We note your response to prior comment 5. However, given your disclosure that, in the short term, each of your suppliers is material to your operations, please tell us whether you have any agreements with your suppliers and if so, how these agreements are not material. In addition, please expand your risk factor disclosure to reflect your reliance on single source suppliers.

Executive Compensation, page 33

3. Please update your executive compensation disclosure for the fiscal year ended December 31, 2011.
4. We note your response to prior comment 9. Please provide us with your analysis as to whether the company benchmarks the salaries of Dr. Peters and Debra Kridner. See Regulation S-K Compliance and Disclosure Interpretation 118.05. If the company does benchmark these salaries, please identify the component companies that make up the compensation peer group and the basis for selecting the peer group.

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 Exchange Act of 1934 and all applicable Exchange 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.

In responding to our comments, please provide a written 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
- 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.

You may contact David Burton at (202) 551-3626 or Lynn Dicker, the accounting reviewer, at (202) 551-3616 if you have questions regarding comments on the financial statements and related matters. Please contact Allicia Lam at (202) 551-3316 or Daniel Morris, Special Counsel, at (202) 551-3314 with any other questions.

Sincerely,

/s/ Daniel Morris for

Amanda Ravitz
Assistant Director

cc (by e-mail): Matthew R. Kuhn -- Faegre & Benson LLP