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December 16, 2011

VIA EDGAR AND FEDERAL EXPRESS

United States Securities and Exchange Commission
Division of Corporate Finance
100 F Street, NE
Washington, DC 20549-3561
Attention: Amanda Ravitz, Assistant Director

Re: Sunshine Heart, Inc. Registration Statement on Form 10 (File No. 001-35312) (the "Registration Statement")

Ladies and Gentlemen:

On behalf of Sunshine Heart, Inc. (the "Company"), we are transmitting the following responses of the Company to the comments of the Commission's staff (the "Staff") as set forth in the letter of Amanda Ravitz, Assistant Director, dated October 27, 2011 (the "Comment Letter"). We have enclosed for your reference two courtesy copies of Amendment No. 1 to the Registration Statement (the "Amendment") in a clean version and two copies of the Amendment in a version marked to show changes from the initial filing of the Registration Statement.

The responses herein were provided to this firm by the Company. In this letter, we have recited the comment from the Staff in italicized, bold type and have followed the comment with the Company's response in regular type. References in this letter to we, our or us mean the Company or its advisors, as the context may require. All references to page numbers in this letter refer to page numbers in the Amendment.

General

1. ***Please note that the Form 10 goes effective by lapse of time 60 days after the original filing date, pursuant to Section 12(g)(1) of the Securities Exchange Act of 1934. Upon the expiration of this 60-day time period, you will be subject to the reporting requirements under Section 13(a) of the Securities Exchange Act of 1934. In such event, we will continue to review your filing until all of our comments have been addressed. If this filing was made voluntarily, you should consider withdrawing it prior to the effective date if comments remain outstanding. You could then refile when you are prepared to resolve the comments. If so, please file your request for withdrawal before the automatic effectiveness date.***

Company Response: The securities being registered by the Amendment are to be listed on the Nasdaq Capital Market national securities exchange, and therefore the Company believes that such securities are being registered pursuant to Section 12(b) of the Securities and Exchange Act of 1934, as amended (the "Exchange Act") and not Section 12(g) of the Exchange Act. Section 12(d) of the Exchange Act states that any securities registered under Section 12(b) of the Exchange Act will become effective thirty days after the receipt by the Commission of a certification by the exchange that the securities have been approved for listing or within such shorter period of time as the Commission may determine.

Market Data, page i

2. ***With regard to third party data referenced throughout, please provide copies of these industry publications, surveys, and other sources of statistics, clearly marking the relevant sections of these reports. Also, please tell us whether these materials were prepared at your request or in connection with the registration statement.***

Company Response: Please see the enclosed binder of supporting documentation, which is appropriately referenced to the statements in the Amendment that this material supports. None of these materials were prepared at our request or in connection with the Registration Statement.

Item 1 — Business, page 1

3. ***Please revise this section to describe the distribution methods for your products, whether you manufacture your products, sources and availability of raw materials and the names of principal suppliers. In this regard, we note your risk factor, "We depend on a limited number of manufacturers and suppliers…" on page 10. In addition, revise to describe the terms of any material agreements.***

Company Response: In response to the Staff's comment, the Company revised page 3 to describe the distribution methods for its products, to clarify that the Company does not manufacture its products and to provide the material information relating to the Company's suppliers and the availability of new materials.

Our Product, page 2

4. ***Please revise to describe in greater detail how your product will be used. For example, we note your statement that your product may be turned on or off at any time allowing the patient intervals of freedom to perform certain activities. Please revise your disclosure to discuss whether the product is expected to be used all the time or for certain hours and whether the product can be used at home by a patient or whether use of your product requires a visit to a medical facility. Please also revise to disclose specifically the types of activities which are allowable and the restrictions on activities when the product is turned on or off.***

Company Response: In response to the Staff's comment, the Company revised page 2 to include further details regarding use of the Company's product.

5. ***We note that your product is implanted between the patient's ribs and sternum. Please reconcile the implantation of the device with your statements that the device "does not directly contact the patient's blood."***

Company Response: In response to the Staff's comment, the Company revised the Registration Statement to clarify that the Company's product, when implanted, remains outside the patient's vascular system.

Clinical Development, page 2

6. ***We note your statements on page 2 that you have completed enrollment in your feasibility clinical trial. Please revise to discuss any results from the current feasibility study and the status of the study. If you have conducted other clinical trials, please revise to discuss the dates and results of those clinical trials, as well. In addition, please discuss the status of your IDE application, including the remaining hurdles to approval.***

Company Response: In response to the Staff's comment, the Company revised its disclosure to include information regarding the results of the feasibility trial and included further details regarding the IDE application.

7. ***We note also your statement on page 1 that you are seeking CE Mark approval for your product and that you anticipate that you will obtain approval in early 2012. Please revise to describe the status of your CE Mark approval, the steps you have taken to seek CE Mark approval and the steps which still need to be taken before approval.***

Company Response: In response to the Staff's comment, the Company revised its disclosure on pages 1 and 3 to include additional details regarding the CE Mark process.

Sales and Marketing, page 3

8. ***Please revise to clarify the "initial steps" you have taken to develop a network of physicians and clinics in Europe.***

Company Response: In response to the Staff's comment, the Company revised this section on page 3 to delete the reference to "initial steps" taken to develop a network of physicians and clinics in Europe and to include more information regarding the Company's plans and efforts to date to commercialize its product in Europe.

Competition, page 4

9. ***We note that your disclosure describes only the perceived advantages of your product relative to the competition. Please also describe the competitive disadvantages of your product relative to other products used at the same or earlier stages of heart failure. If you are unable to identify the disadvantages, add appropriate disclosure stating that the efficacy of your product, including potential competitive disadvantages, is not known.***

Company Response: In response to the Staff's comment, the Company revised its disclosure on page 4 to disclose that the efficacy of its product, including any potential competitive disadvantages, is not known.

Comparison of Year Ended December 31, 2010 to Year Ended December 31, 2009
Revenue, page 26

10. ***Please revise to clarify whether all of the revenues earned during the years ended December 31, 2010 and December 31, 2009 resulted from your feasibility clinical trial.***

Company Response: In response to the Staff's comment, the Company revised its disclosure to clarify that all of the revenue during 2009 and 2010 was derived solely from sales of the C-Pulse System to hospitals and clinics under contract in conjunction with the Company's feasibility trial.

Sources of Liquidity, page 27

11. ***We note that your current funds are sufficient to continue your operations "into 2012." Please specify when you expect to require additional funds and describe the course of action you propose to take in order to obtain additional financing***.

Company Response: In response to the Staff's comment, the Company revised this section on page 27 to specify that it expects its current funds will be sufficient to fund the Company's operations through substantially all of the first half of 2012 and the Company expects to obtain additional financing when needed through sales of its common stock or other securities.

Item 5 — Beneficial Owners of More than Five Percent of our Common Stock, page 29

12. ***Please revise to identify the natural persons with voting or investment power over the shares beneficially owned by entities listed in the table.***

Company Response: In response to the Staff's comment, the Company revised the footnotes to the table on page 29 to identify the natural persons with voting or investment power over the shares beneficially owned by entities listed in the table.

Directors and Executive Officers, page 29

13. ***Please revise the table to include Nicholas Callinan's position as Chairman of the Board.***

Company Response: In response to the Staff's comment, the Company revised the table on page 29 to include Nicholas Callinan's position as Chairman of the Board.

Directors, page 30

14. ***Please revise Paul Buckman's biography to describe briefly the principal business of Pathway Medical Technologies, Inc. Please also revise to specify the dates when Dr. Mark Harvey and Donal O'Dwyer served as directors of the entities listed in their respective biographies***.

Company Response: In response to the Staff's comment, the Company revised the biographies of Mr. Buckman, Dr. Harvey, and Mr. O'Dwyer to include the information noted above.

Item 6 — Executive Compensation, page 33

15. ***Please revise to describe how the board set the salary of Dr. Peters and Debra Kridner, given that there are no employment agreements with these individuals.***

Company Response: In response to the Staff's comment, the Company revised page 34 to include a description of the process undertaken by the Company to set the salary of Dr. Peters and Debra Kridner.

Related Party Transactions, page 37

16. ***We note section 2 of Exhibit 10.15. Please revise to describe in greater detail the services that WSP provides. Additionally, please revise to clarify that this agreement requires that Williams Peter serve as your Medical Director and Chief Technical Officer.***

Company Response: In response to the Staff's comment, the Company revised its disclosure to clarify that the agreement requires that Dr. Peters serve as our Medical Director and Chief Technical Officer and that we make payments to WSP rather than directly to Dr. Peters for his services in those capacities.

Item 9 — Market Price of and Dividends…, page 37

17. ***We note your disclosure that 235,634,277 shares of your common stock may be sold by your existing stockholders without restrictions under Rule 144. Please revise to clarify whether this number includes those shares owned by your affiliates.***

Company Response: In response to the Staff's comment, the Company revised page 38 to clarify that the number of shares specified does not include shares owned by the Company's affiliates.

Common Stock, page 49

18. ***We note your statement that you are authorized to issue up to 196,000,000 shares of common stock. However, we note Article IV.A of your Articles of Incorporation which states that you are authorized to issue 1,960,000,000 shares of common stock. Please revise.***

Company Response: The Company revised the number of authorized shares.

Financial Statements, page F-1
Note 4. Income Taxes, page F-12

19. ***We note your disclosures regarding the recognition of a $670,000 tax benefit in 2010 as a result of your foreign subsidiary's R&D tax credit rebate. With a view toward enhanced disclosure, please explain to us in greater detail the nature of the rebate and the circumstances surrounding your recognition of it only during that period. Tell us what your expectations are for future rebates considering anticipated increases in research and development expenses and expected continued losses.***

Company Response: In response to the Staff's comment, the Company revised Note 4 on page F-13 to include greater details regarding the tax credit rebate and to explain the Company's expectations for future tax credit rebates.

Exhibits

20. ***Please tell us why you have not filed your lease agreements for your corporate headquarters in Eden Prairie, Minnesota and your office space in St. Leonards, New South Wales, Australia.***

Company Response: In response to the Staff's comment, the Company filed as exhibits with the Amendment its lease agreements for properties in Minnesota and the office space in St. Leonards, New South Wales, Australia.

Please do not hesitate to call me at 612-766-8134 if you have any questions or comments regarding the foregoing or if we can be of service in facilitating your review of this filing.

Sincerely,

/s/ Matthew R. Kuhn

Matthew R. Kuhn

Enclosures

cc: Allicia Lam, Staff Attorney, Securities and Exchange Commission (w/out encl.)
Daniel Morris, Special Counsel, Securities and Exchange Commission (w/out encl.)
David Rosa, Chief Executive Officer, Sunshine Heart, Inc. (w/out encl.)
Jeffrey Mathiesen, Chief Financial Officer, Sunshine, Inc. (w/out encl.)