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July 15, 2005

SENT VIA FAX AND FEDERAL EXPRESS

United States Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549
Attention: Peggy A. Fisher, Assistant Director, Division of Corporation Finance

Re: Electro-Optical Sciences, Inc.
Registration Statement on Form S-1
Filed June 3, 2005
File No. 333-125517

Ladies and Gentlemen:

On behalf of Electro-Optical Sciences, Inc., a Delaware corporation (the "Company"), and pursuant to the applicable provisions of the Securities Act of 1933, and the rules and regulations promulgated thereunder, we are submitting for filing with the Securities and Exchange Commission Amendment No. 1 to the above-captioned Registration Statement on Form S-1 ("Amendment No. 1"). A copy of Amendment No. 1 to the Registration Statement has been manually signed in accordance with Rule 302 of Regulation S-T and the signature pages thereto will be retained by the Company for a period of five years. The Company has authorized us to respond to the comment letter sent to Joseph V. Gulfo, M.D. of Electro-Optical Sciences, Inc., dated June 30, 2005, from the Staff of the Commission.

For your convenience, we enclose a marked copy of Amendment No. 1 marked to show changes to the Registration Statement, as originally filed with the Commission on June 3, 2005.

We have referenced the appropriate page number of the prospectus contained in Amendment No. 1 in our responses contained herein. The numbered paragraphs below set forth the Staff's comments, together with our responses. Unless otherwise indicated, capitalized terms used herein have the meanings assigned to them in Amendment No. 1.

Prospectus Inside Front Cover Page

1. We note your disclosure that you "do not make any representation as to the accuracy" of the industry data and forecasts and market research included in your prospectus. Please note that it is inappropriate to suggest that you do not have responsibility for the accuracy of disclosure in the registration statement. Please revise your disclosure accordingly.

   Response: In response to Comment 1, we deleted the above-referenced language. See the inside front cover page.

2. Please provide us with copies of the industry reports and market data cited throughout the registration statement, clearly marking the relevant sections, and identify any reports prepared specifically for your use.

   Response: Attached as Annex A are copies of the industry reports and market data cited throughout the Registration Statement, together with pages of the Registration Statement marked to cross-reference the relevant sections to the appropriate industry report or market data.

Prospectus Summary, page 1

3. Please expand the summary to clarify that you currently do not have any commercialized product or significant source of revenue and that your revenues to date were derived from the DIFOTI product, which was recently discontinued.

   Response: We have provided additional disclosure on pages 1 and 44 in response to Comment 3.

4. Also clarify your anticipated timeframe for commercialization of MelaFind, assuming you receive premarket approval for MelaFind in 2007, as you currently anticipate. Also disclose the length of time it may take to obtain Medicare coverage.

   Response: We have provided additional disclosure on pages 3 and 46 in response to Comment 4.

5. We note your disclosure in the second paragraph on page 1 that you have entered into a binding Protocol Agreement with the FDA to conduct a pivotal trial. Please also disclose that such a trial was initiated in 2004, but that you experienced technical operational issues which require refinement to your hardware systems. We refer you to your disclosure in last paragraph on page 46 of the prospectus.

   Response: We have provided additional disclosure on pages 1 and 44 in response to Comment 5.

6. Please tell us when you anticipate the completion of the websites mentioned on page 3 of the prospectus.

Response: The websites mentioned on page 3 of the prospectus are now complete.

The Market Opportunity, page 1

7. Revise the first few sentences to provide industry data regarding the incidence of melanoma, which appears to be a more relevant statistic than the incidence of all skin cancers.

Response: We have provided additional disclosure on pages 1 and 45 in response to Comment 7.

Risk Factors, page 7

8. Please eliminate the last two sentences of the introductory paragraph and revise as necessary to include a discussion of all material risks in the Risk Factors section.

Response: In response to Comment 8, we deleted the above-referenced language. See page 7.

Dilution, page 32

9. Please expand your disclosure to include the further dilution to new investors assuming your underwriters' over-allotment is exercised in full, if material.

Response: In response to Comment 9, we have revised the disclosure on page 33.

Our Business, page 43

10. Throughout the filing, please define or explain medical and regulatory terms, such as "dermatohistopathological" review on page 47, "spectrophotometric intercutaneous" analysis on page 53, and references to "QSR" and "ISO 9000 series" standards.

Response: We have added definitions of the medical, regulatory and statistical terms listed below at appropriate places in the Registration Statement.

Term	Page Reference
Nodular melanomas	See pages 8 and 52
Dermatohistopathological (changed to histological)	See page 10
Histopathological (changed to histological)	See page 10
Confocal microscopy	See page 11

Spectroscopy	See page 11
QSR	See page 17
Statistically significant greater specificity	See page 48
Exact binomial lower confidence bound (changed to lower confidence bound)	See page 48
Spectrophotometric intercutaneous analysis	See page 55
Medi-Spas	See page 54
Spectrophotometer	See page 56
Breslow thickness	See page 57
Shell	See page 59
ISO 9000	See page 64

MelaFind(R) Product Description, page 45

11. Please explain in greater detail the "appropriate limits" as it pertains to the MelaFind's functionality. We refer you to your disclosure in the penultimate paragraph on page 46.

Response: We have provided additional disclosure on page 48 in response to Comment 11.

MelaFind(R) Regulatory Status, page 46

12. Explain statistical terms used, such as "binomia1 1ower confidence bound," and quantify the "statistically significant greater specificity" needed to rule out melanoma. Also explain the difference between a "pilot" trial and a "pivotal" trial and update us as to the status of the pilot trial. We refer you to your disclosure in the last sentence on page 46.

Response: With respect to statistical terms, see our response to comment 10. We have revised the disclosure on page 48 in response to Comment 12.

Results of Training Studies and Blinded Tests, page 48

13. It is unclear what, if any, conclusions can be gleaned from the cumulative results of your training studies and blinded tests regarding the effectiveness of your product. The results appear to show that MelaFind's effectiveness varies greatly when compared to the results of study dermatologists. Please revise and expand your disclosure to include a conclusion as to how the latest iteration of your product compares with the effectiveness of expert dermatologists.

Response: It is important to understand that the data described in the "Our Business - Results of Training and Blinded Tests" include a comprehensive review of the results obtained throughout the development of prototype hardware systems and developmental software and classifiers. The cumulative results are provided to assist the reader in understanding the evolution of the MelaFind(R) system as the Company seeks to meet the performance goals described in the Protocol Agreement. The intention was to provide the reader with the information to come to a conclusion regarding the likelihood of success of our efforts in the final refinements of the hardware, software, and classifiers. The Company believes that through the clinical studies, it has learned a great deal regarding the optimal classifiers and design of hardware. The Company has implemented changes based on its experience such that steady progress toward optimal performance criteria has been demonstrated. The results of the largest study to date in 352 pigmented lesions using prototype systems serve as validation of the Company's development efforts. The Company believes that when using refined pre-commercialization hardware systems and final software and classifiers, the results of the pivotal trial will be similar or superior to the results obtained in the largest study to date, which employed prototype systems. The Company also believes that the results of the pivotal trial will satisfy the Protocol Agreement endpoints of performance relative to study dermatologists.

Consequently, we have provided additional disclosure on page 52 in response to Comment 13.

14. We refer you to the January 2005 Test Results on page 50. Please provide the basis for your belief that your product's sensitivity would have been 96.4% had the device performed within specifications.

Response: Some of the parameters of lesions imaged with the devices used to acquire the data for the January 2005 Test were significantly outside of the range of all the previous data. This led to the realization that several MelaFind(R) systems had fallen out of specifications as well as to the identification of problems with the MelaFind(R) hardware, which provided insight into a new and more robust design for these devices, intended to eliminate such problems in the future. If the results from the devices that were out of specification are removed, the sensitivity of classifiers A-4 and C-4 would have been 96.4%.

Consequently, we have provided additional disclosure on page 52 in response to Comment 14.

Our Reimbursement Strategy, page 51

15. Please expand your disclosure to provide more specific detail as to how you plan to accomplish your reimbursement strategy. For example, tell us how you plan to secure coverage by private payors and Medicaid agencies, particularly in light of the Risk Factors mentioned on page 9 of the registration statement.

Response: We have provided additional disclosure on pages 54 in response to Comment 15.

16. Please explain why you believe physicians might be willing to pay to use MelaFind and not charge patients for its use. We refer you to your disclosure in the first paragraph on page 52.

Response: In a capitated system (i.e., systems where physicians cannot pass costs on to patients, but rather are paid a fixed amount per patient under the plan, whether or not treated), it is possible that physicians will pay to use MelaFind(R) without passing the cost onto the patient since MelaFind(R) is likely to be less costly than other procedures that are currently used to detect and diagnose melanoma, including biopsy. In a non-capitated system, physicians may choose not to pass the cost of MelaFind(R) onto the patients; however, they may recoup the cost of using MelaFind(R) by performing other reimbursed procedures (for example, biopsies) when the information provided by MelaFind(R) indicates these are appropriate. Similarly, they may recoup the cost of using MelaFind(R) from other procedures that they may now have additional time to perform in the event that the MelaFind(R) information contributes to their decision not to perform a biopsy, for example, various cosmetic procedures. These dynamics are not likely to be understood until MelaFind(R) is approved, marketed and evaluated by physicians.

Consequently, we have provided additional disclosure on page 54.

Competition, page 52

17. Please explain the significance of comparing the specificity of dermatologists in DB-Mips studies to the specificity of dermatologists in MelaFind studies. Additionally, please disclose the reported sensitivity of the DB-Mips system and tell us how it compares to that of the MelaFind. We refer you to the last paragraph on page 52.

Response: The text in the Registration Statement on page 55 has been amended to include the reported sensitivity of the DB-Mips system (95% sensitivity in the blinded test) and to compare it to MelaFind(R)'s sensitivity (100% in the blinded test).

We have also added a discussion of the importance of pre-biopsy diagnoses by examining physicians. The basic problem is that the direct comparison of diagnostic results obtained by different systems on different databases of pigmented lesions is not, in general, meaningful. For example, if the database for one system included only stage III/IV melanomas (which are more early recognizable than early stage melanomas and for

which no effective treatment exists) and benign freckles, this system could easily achieve very high sensitivity and specificity when distinguishing between these two extremes. On the other hand, if a second system utilized a database that generally included very early melanomas (curable by complete excision) and a number of benign lesions that the experts had erroneously diagnosed as melanoma prior to biopsy, this system would have much lower specificity. Nevertheless, the second system would be a much more useful tool in assisting physicians in detecting melanoma than a highly accurate system that focused on the "easy calls." Thus, a good way to assess whether the diagnostic results of two systems could be compared in a meaningful way is to compare first the pre-biopsy clinical sensitivities and specificities of the examining physicians.

Consequently, we have also revised the disclosure on page 54.

Intellectual Property, page 54

18. Please describe the importance to your business and the duration and effect of all material patents. Refer to Item 101(c)(iv) of Regulation S-K.

Response: In response to Comment 18, we have revised the table on page 56 to include the expiration dates of the patents listed in the table and have provided additional disclosure on page 58.

Board of Directors Composition, page 63

19. Please identify the "certain directors" elected to the board pursuant to the voting agreement among you and certain shareholders. Also, in the Related Party Transactions section of the prospectus, please describe the material terms of the voting agreement and disclose which shareholders have representatives on your board of directors.

Response: In response to Comment 19, we have revised the disclosure on page 67 to identify the "certain directors" elected to the board pursuant to the voting agreement.

We have also provided additional disclosure on page 76 describing the material terms of the voting agreement.

Executive Compensation, page 67

20. Confirm that you have filed all employment agreements with all named executive officers.

Response: All employment agreements with all named executive officers have been filed.

Consulting Agreements, page 70

21. Please tell us why you have not filed your consulting agreement with Dr. Friedman as an exhibit to the registration statement.

Response: The consulting agreement with Dr. Friedman is being filed as an exhibit to Amendment No. 1.

Principal Stockholders, page 73

22. Please identify the natural persons who beneficially own the shares held by Caremi Partners Ltd., or clarify in the footnote that such person is Steven Ruchefsky.

Response: S. Donald Sussman is the beneficial owner of all the shares held by Caremi Partners. Accordingly, we have revised the table on page 77 and footnote 6 on page 78 to identify Mr. Sussman as the beneficial owner of the shares formerly identified as being beneficially owned by Caremi Partners, Ltd. In addition, all references to "Caremi Partners, Ltd." in the Registration Statement have been replaced by references to "S. Donald Sussman."

Legal Matters, page 86

23. Delete the second and third sentences, since investors are entitled to rely on the opinion to be filed as an exhibit from counsel regarding the legality of the securities being offered.

Response: We revised the disclosure on page 90 in response to Comment 23.

Financial Statements, page F-l

24. Consideration should be given to the updating requirements of Rule 3-12 of Regulation S-X.

Response: The Company has considered the updating requirements of Rule 3-12 of Regulation S-X and has included financial statements and related financial information for the six month periods ended June 30, 2004 and 2005.

25. Please revise to disclose all significant transactions with related parties separately on the face of the financial statements and in the notes to the financial statements. Refer to SFAS 57 and Rule 4-08 (k) of Regulation S-X.

Response: In accordance with SFAS 57 and Rule 4-08 (k) of Regulation S-X, all significant transactions with related parties have been disclosed separately on the face of the financial statements and in notes 5, 8, 9, and 11 to the financial statements.

Report of Independent Registered Public Accounting Firm, page F-2

26. We note your auditor's plan to render their opinion upon the effectiveness of a one-for-two reverse common stock split. Prior to going effective this audit report should be removed and the audit report on the financial statements should be signed.

Response: Prior to going effective, the Company expects to receive the signed standard audit report of its auditors, Eisner LLP, on the financial statements, and will file the audit report in its registration statement.

Statement of Stockholders' (Deficiency) Equity, page F-5

27. Provide us with an itemized chronological schedule detailing each issuance of your common shares, preferred stock, stock options and warrants since January 2004 through the date of your response. Include the following information for each issuance or grant date:

- Number of shares issued or issuable in the grant
- Purchase price or exercise price per share
- Any restriction or vesting terms
- Management's fair value per share estimate
- How management determined the fair value estimate
- Identity of the recipient and relationship to the company
- Nature and terms of any concurrent transactions with the recipient
- Amount of any recorded compensation element and accounting literature relied upon to support the accounting.

In the analysis requested above highlight any transactions with unrelated parties believed by management to be particularly evident of an objective fair value per share determination. Please provide us with a chronological bridge of management's fair value per share determinations to the current estimated IPO price per share. Also, indicate when discussions were initiated with your underwriter(s) about possible offering price ranges. We will delay our assessment of your response pending inclusion of the estimated IPO price in the filing.

Response: The Company has provided the information requested in Comment No. 27 for all common stock, preferred stock, options, and warrants issued during the period January 1, 2004 through the date hereof in Annexes B and C attached hereto.

The Company used three different fair values for its common stock during this period, which corresponded to its overall value creation and development progress. These three fair values were the basis for the valuations for all equity transactions entered into by the Company during these periods. These three different fair values per share for the Company's common stock were as follows:

Period	Value per Share
January 2004 through April 2004	$0.46
May 2004 through September 2004	$1.10
October 2004 through December 2004.	$4.00

The change in valuation from period to period reflected the operational progress of the Company, as is the case for pre-revenue biotech and medtech companies. There have been no equity issuances from December 31, 2004 to the date hereof.

EQUITY FAIR MARKET VALUATION FOR FINANCIAL STATEMENT PURPOSES

PER SHARE FAIR VALUE
JANUARY 04-APRIL 04

The Company has not been profitable in any of the past five years and has incurred substantial losses. As of December 31, 2003, the Company's accumulated deficit was $10.3 million and the Company had negative working capital in the amount of $433,000. In addition, the future sales potential and cash flow projections for the DIFOTI(R) product line were significantly below the Company's original estimates. The Company made a strategic decision during this period to redesign and enhance the DIFOTI(R) product marketability by incorporating laser technology. This redesign resulted in substantial changes to DIFOTI(R) and required a FDA 510 (k) filing. The Company's Board of Directors was concerned about the continued delays in the MelaFind(R) project development timeline and determined that these delays were the result of the existing management's lack of experience in commercializing a prototype concept. During January 2004, Dr. Joseph V Gulfo joined the Company as CEO and President. The Company recruited Dr. Gulfo on the basis of his proven managerial and product development expertise within the healthcare sector. At that time, cash on hand was only $100,000 and Dr.Gulfo initially deferred his salary due to the Company's cash constraints, and did not receive his deferred salary until October 2004 at the completion of the Series C preferred stock private placement. In June 2003, Health Partners I, LLC ("HP I") had committed to purchase additional shares of Series C preferred stock and warrants to purchase common stock, subject to, among other things, satisfaction of certain MelaFind(R) development milestones. As of February 2004, the Company had not achieved the specified development milestones. As an inducement in this second tranche of Series C private placement, the Company issued additional warrants to purchase 60,840 shares of Series C preferred stock to HP I at an exercise price of $4.52 per share.

Dr.Gulfo's three primary objectives during this period were: (1) to establish a late stage development plan for MelaFind(R); (2) to initiate discussions with the FDA to review the development plan for PMA approval of MelaFind(R); and (3) to actively enter into discussions with numerous venture capital and private equity firms to raise additional capital. Unfortunately, no investment from any unrelated institutional investors was consummated during this period.

Management's estimate of the fair value of the Company's common stock took into consideration the fact that the aggregate liquidation preferences for the Company's preferred stock outstanding exceeded the Company's liquid assets. In view of the Company's financial condition, the reduction in the estimated sales potential for DIFOTI(R), and the level of resources required to complete the development of MelaFind(R), the Company valued its common stock at $0.46 per share. This per share value was based

upon a discount to the price (post split equivalent per share value of $4.52) at which its Series C preferred stock was being sold at this time, reflecting the rights, preferences, and privileges of the Series C preferred stock.

MAY 04-SEPTEMBER 04

The Company experienced positive developments during this period, resulting in an increase in the fair value of the Company's common stock as determined by management of the Company from $0.46 per share to $1.10 per share.

During May 2004, to fund the continued development of MelaFind(R) and support the existing operations, the Company obtained a bridge loan in the amount of $1.0 million from related parties and also sold 125,000 shares of common stock at a per share price of $0.46. The estimated fair value of the Company's common stock at this stage of development was determined to be $1.10 per share which resulted in recording an imputed interest charge of $80,000 on the bridge loan.

During August 2004, Dr. Gulfo engaged a consultant to meet with the FDA to discuss the design of the MelaFind(R) pivotal trial. Based on the favorable outcome of this FDA meeting, which ultimately resulted in a Protocol Agreement with the FDA, Dr.Gulfo prepared a business plan for the development and commercialization of MelaFind(R).

The Company consulted with its advisors in the second quarter of 2005 to assist in determining the fair value of its common stock during this period in anticipation of a possible initial public offering. The methodologies presented generally followed the guidance set forth in the AICPA Audit and Accounting Practice Aid for "Valuation Of Privately Held Company Equity Securities Issued As Compensation" (the "Practice Aid"). The market, income and asset based approaches to valuation, as discussed in Chapter 6 of the Practice Aid, were considered. A probability weighting was applied to the resulting calculated values. The Company concluded that an asset approach should not be utilized in determining the fair value per share. This approach resulted in no value attributable to the equity of the Company. The Company believed that there was value in the intangible assets related to its technology. Such intangible value is not reflected in the asset approach.

The Company believed that its near term revenue and lack of profitability during this period were not indicative of its revenue generating capabilities. The Company relied most heavily on the Income Approach utilizing a Discounted Cash Flow Method and also utilized the value derived from the Market Approach. The weighted value the Company calculated was a range of $0.78 to $1.38 per share of common stock, and the Company concluded that a fair value of $1.10 per share would be appropriate. In addition to utilizing the above discussed approaches to value, the Company calculated the value of the common stock utilizing both the Current-Value Method and Option-Pricing Method as reflected in Chapter 10 of the Practice Aid. These methods resulted in values of $0.72 to $1.14 per share, respectively. As discussed in Chapter 10, the Current-Value Method is more appropriate when the expectations regarding the future of an enterprise are virtually irrelevant and there has been no material progress on the enterprise's business plan. The

Company believed that its future expectations were indeed relevant and that the Company had made material progress on its business plan. Therefore, the management of the Company believed that the $1.14 per share calculated utilizing the Option-Pricing Method was a better indication of the fair value of the common stock and was consistent with the $1.10 per share of common stock determined using the aforementioned Discounted Cash Flow Method and Market Approach.

OCTOBER 04-DECEMBER 04

This period reflected additional positive developments for the Company, beginning in October 2004, resulting in an increase in the fair value of the Company's common stock as determined by management of the Company from $1.10 per share to $4.00 per share.

During October 2004, the Company completed another round of Series C preferred stock financing, resulting in gross proceeds of $8.1 million at a price of $2.26 per unit (the post reverse split common stock equivalent value was $4.52 per unit). Each unit consisted of one share of Series C preferred stock and one warrant to purchase one share of the Company's common stock at an exercise price of $13.00 per share. Since no additional consideration was received for the warrant, the consideration for the Series C preferred stock was less than $2.26 per share. Approximately 35% of the units were acquired by new unaffiliated investors. The common stock warrants attached to this issuance were valued at approximately $1.48 per warrant using the Black-Scholes model with a fair value of $4.00 per share of common stock.

During October 2004, the Company received a binding Protocol Agreement from the FDA defining the endpoints of the pivotal clinical trial for MelaFind(R) approval. The Company believes that the presence of a Protocol Agreement enhances its ability to expedite the FDA approval process. To support the future growth of the Company and the commercialization of MelaFind(R), the Board approved in December 2004 the appointment of key executives to the Company. In addition, the Board approved the issuance of 75,000 warrants to Allen & Company, LLC to purchase common stock with an exercise price of $7.00 per share in exchange for financing advice, acknowledging the need for additional capital to support MelaFind(R) development. For these reasons, the Company believes the fair value of its common stock during this period was $4.00 per common share, and accordingly the valuation of options and warrants issued during December 2004 was based upon the $4.00 per share common stock value.

JANUARY 05-MARCH 05

During the period from January 2005 through March 2005, the Company encountered certain technical issues relating to the development of MelaFind(R) which led to the realization that significant additional capital resources would be required to achieve the Company's goals and objectives. For these reasons, the Company began financing discussions with various investment bankers.

The management of the Company believes that the issues encountered during this period negatively impacted the fair value of the Company's common stock, but since no equity

transactions were consummated during this period, management did not determine a new estimated fair value of its common stock during this calendar quarter.

During January 2005, Dr.Gulfo began initial discussions with Ladenburg Thalmann & Co. Inc. and other bankers/venture capital firms regarding the next round of financing to support the continued development of MelaFind(R). During February 2005, the expanded management team undertook an in depth strategic and operational review of the status of the MelaFind(R) development program. A study that was initiated in late 2004 under the Protocol Agreement was stopped due to technical difficulties with some of the MelaFind(R) clinical trial instruments. The MelaFind(R) hardware systems used in the clinical trials through January 2005 were prototypes, which were not manufactured using the techniques and standards applicable to the manufacture of commercial systems. The technical difficulties observed in the pivotal trial that was started in December 2004 mandated a different approach.

After receiving FDA 510 (k) approval to market the new DIFOTI(R) model, the Company began selling and shipping DIFOTI(R) systems in January 2004. During February 2005, several software installation issues were identified with the new DIFOTI(R) model that required a greater level of technical support resources than the Company had anticipated. In order to respond to these issues, the Company needed to redirect dedicated MelaFind(R) resources to address these customer technical difficulties. During the period from March 9 through March 21, 2005, the Company was inspected by the FDA in connection with its DIFOTI(R) product. On March 21, 2005, the Company was cited in an FDA Form 483 for failures to comply fully with FDA quality system regulation, or QRS, mandated procedures.

APRIL 05-JUNE 05

During this period, many of the problems the Company encountered during the first quarter of 2005 were resolved. Dr. Gerald Wagner, an internationally renowned electro-optical systems development and manufacturing professional, was retained by the Company as a consultant. Dr. Wagner has agreed to direct our MelaFind(R) product development efforts and oversee the manufacturing process. Dr. Wagner advised the Company that developmental engineers and individuals with expertise in the manufacturing of sophisticated electro-optical systems were required to finalize the design and to produce commercial MelaFind(R) systems. Dr. Wagner introduced the Company to ASKION GmbH (Gera, Germany), a precision optics specialty manufacturer comprised of former management employed by Zeiss. ASKION manufactures precision electro-optical systems for Agfa, Zeiss, and Bayer. In April, the Company entered into an agreement with ASKION to develop methods for optimizing the design of the MelaFind(R) hardware, assisting in setting final specifications, and devising a manufacturing process. In June 2005, the agreement was expanded by a letter of intent for the manufacturing of the clinical trial systems in a reproducible and scalable manner. Dr. Wagner joined the Board of Directors of our Company in May 2005. The pre-commercialization hand-held imaging devices which will be assembled by ASKION are expected to be available for the pivotal trial initiation planned for early 2006.

The Company formally discussed the possibility of an initial public offering of its common stock with Ladenburg Thalmann & Co, Inc. in April 2005. The Board approved and the Company signed an engagement agreement letter with Ladenburg Thalmann & Co. Inc. for its initial public offering during April 2005. The Stanford Group Company agreed to be a co-manager for this offering. An initial organizational meeting was held on April 8, 2005. A tentative price range of $10.00 to $12.00 per share was discussed.

The Company decided to discontinue all operations associated with our DIFOTI(R) product effective as of April 5, 2005, in order to focus its resources and attention on the development and commercialization of MelaFind(R). The Company is currently seeking an acquirer for the DIFOTI(R) assets, and does not expect to have any significant continuing responsibility for the DIFOTI(R) business after its disposition. In addition, the inspectional findings identified in the FDA Form 483 were discussed in a subsequent meeting with the FDA on April 28, 2005 and did not result in a product recall. The Company is in the process of addressing the deficiencies noted.

During May and June 2005, the Company informed the FDA that it had discontinued a study that was initiated in December 2004. The FDA requested information regarding the nature of the technical problems that led to the decision. The Company provided a report to the FDA and discussed with the FDA its plan to address the technical difficulties with the MelaFind(R) hardware systems through a design modification and optimization process with ASKION. The Company also discussed its plan to re-initiate a pivotal trial in 2006 under the auspices of the Protocol Agreement once pre-commercialization hardware systems from ASKION become available. On June 30, 2005, the Company received written confirmation from the FDA that this plan was acceptable. Further, the FDA informed the Company that Module 1 of our PMA was closed and that an acceptance letter for Module 1 would be forthcoming.

Based on the considerable progress achieved during the second quarter of 2005, as described above, the Company believes that a pre-IPO valuation of $70 million ($11.00 IPO midpoint price times 6.5 million shares outstanding) is appropriate given the valuation of comparable companies in the medtech sector in late stage clinical development. Based on discussions with the underwriters during the last week in June, we believe the IPO price will be in the range of $10.00 to $12.00 per share.

28. We are deferring any evaluation of stock compensation recognized until the estimated offering price is specified, and we may have further comments in that regard when you file the amendment containing that information.

Response: The estimated offering price is between $10 to $12 per share. See the front cover of the prospectus.

29. We believe that the following disclosures would be helpful to an investor since changes in your methodologies and assumptions could have a material impact upon your financial statements. Please revise to provide the following disclosures in MD&A:

- Discuss the significant factors, assumptions and methodologies used in determining fair value for options granted during the twelve months prior to the date of the most recent balance sheet.

- Discuss each significant factor contributing to the difference between the fair value as of the date of grant and the estimated IPO price for options granted during the twelve months prior to the date of the most recent balance sheet.

- Disclose the valuation method used and the reasons why you chose that method.

- Quantify any known or expected compensation expense to be recorded in the accounting period the offering takes place as well as periods subsequent thereto.

Response: In response to Comment 29, we have expanded the disclosures in MD&A to include the information listed in Comment 29. In addition, similar information has been provided in notes 8 and 9 to the financial statements.

Notes to Financial Statements, page F-7

Note 1. Principal Business and of Significant Accounting Policies, page F-7

30. Please revise the warranty cost accounting policy disclosures on page F-8 to clearly indicate your policy complies with FASB Statement 5. If necessary, tell us why your policy for these costs doesn't comply with the Statement.

Response: In response to Comment 30, we have revised the warranty cost accounting policy disclosures on page F-8 to indicate that the Company's policy complies with FASB Statement No.5.

Note 8. Stockholders' (Deficiency) Equity and Redeemable Preferred Stock, page F-14

31. We see on page F-5 that the reduction of the liquidation value of your Series B preferred stock resulted in a charge of $2,125,600 in fiscal 2003. Additionally, we see that other modifications were made to Series A and Series B preferred stock and see that additional shares were issued to Series B shareholders. Please tell us in detail and revise to explain how you valued, recorded and accounted for this transaction. Please cite the guidance upon which you relied to support your accounting for the modifications.

Response: In June 2003, the Company completed a private placement to HP I of units consisting of one share of a new Series C preferred stock and a warrant to purchase one

share of common stock at $13.00 per share. (The Company considered the value of the warrants to be de minimus.) In addition, holders of promissory notes received shares of Series C preferred stock, but not warrants, upon surrender of their notes. In connection with this private placement, the holders of Series A and B preferred stock consented to modifications of certain of their rights, preferences, and privileges, including a reduction in the redemption value of Series B preferred stock to $2.26 per share, equivalent to the redemption value of the new Series C preferred stock. In connection with this transaction, the Company made a stock distribution of an additional 45,000 shares of Series B preferred stock to the holders of Series B preferred stock as a group.

The additional 45,000 shares of Series B preferred stock were valued at $2.26 per share, which was the per share price at which the new Series C preferred stock was sold.

The reduction in the carrying value of the shares of Series B preferred stock, less the value of the 45,000 additional shares of Series B preferred stock distributed, was credited to additional paid-in capital.

These transactions are summarized as follows:

Carrying amount of Series B preferred stock at date of reduction in redemption value (947,986 shares)	$4,471,447
June 2003 Series B preferred stock distribution (45,000 shares)	101,700
June 2003 reduction in redemption value reclassified as additional paid-in capital	(2,329,000)
Carrying amount of Series B preferred stock after transaction	$2,244,147

The reduction in the redemption value of the Series B preferred stock was a capital transaction and was credited to additional paid-in capital in accordance with our legal counsel's advice with respect to this transaction, as appropriate under state law. The Company has made a reclassification in the statement of stockholders' (deficiency) equity for the year ended December 31, 2003 to reflect the aforementioned transaction for both the distribution of 45,000 shares of Series B preferred stock and the reduction in redemption value.

32. We see that as a result of the October 2004 sales of the Series C preferred stock, you recorded a $2.4 million charge due to a beneficial conversion feature. Please tell us and revise the filing to disclose details of the calculation of the charge and discuss how the conversion price was determined. Please tell us the authoritative guidance upon which you relied to support your accounting.

Response: During 2004, the Company issued 4,507,702 shares of Series C preferred stock with 2,253,792 warrants to purchase common stock at $13.00 per share and 73,280 warrants to purchase Series C preferred stock at an exercise price of $4.52 per share for aggregate gross proceeds of $10,186,480. The net proceeds of $9,738,297 were allocated to the Series C preferred stock and additional paid-in capital associated with the warrants based on the relative fair values of the Series C preferred stock and warrants (fair value of warrants determined using Black-Scholes method - please refer to comment #34 response for detailed underlying assumptions). The Company also recorded a beneficial conversion feature of $2,385,063, which is being accreted to redemption value for the Series C preferred stock based on the earliest redemption date of June 2008.

The details of the calculation are as follows:

	Value	%
Series C preferred stock net proceeds in 2004	$9,738,927	75.51%
Value of warrants issued in connection with Series C preferred stock in 2004	3,158,948	24.49
Total	12,897,875	100.00%
Series C preferred stock net proceeds in 2004	9,738,927	24.49%
Beneficial conversion feature	$2,385,063	

The authoritative guidance the Company relied upon to support this accounting treatment was EITF No. 98-5 "Accounting For Convertible Securities With Beneficial Conversion Features" and EITF No. 00-27 "Application of Issue No. 98-5 to Certain Convertible Instruments."

33. We see that at December 31, 2004 and March 31, 2005 there are approximately $1,506,000 and $1,674,000 of deemed but unpaid dividends. We also see in the event the Series B and Series C preferred stock is converted into common stock any related deemed dividends would be forfeited. Please explain how you determined the stated amount of unpaid deemed dividends at December 31, 2004 and March 31, 2005. Provide us with the accounting entries that were made in connection with recording deemed dividends. Be sure to explain how the change from December 31, 2004 to March 31, 2005 in the amounts of deemed but unpaid dividends make sense given the deed dividend amounts presented in your 2005 interim statements of operations. Also, tell us the accounting implications of the forfeiture of deemed dividends, if any. Finally, revise the filing to clarify these matters.

Response: We have included as Annex D a detailed presentation of the cumulative amount of deemed but unpaid preferred stock dividends covering the five years ended December 31, 2004 and the three and six month periods ended March 31, 2005 and June 30, 2005. In addition, the notes to the Company's financial statements which were incorporated in the initial Registration Statement filing presented cumulative deemed but unpaid dividends for December 31, 2004 and March 31, 2005 of approximately $1,506,000 and $1,674,000, respectively. As noted in Annex D the correct amounts for the aforementioned periods are $1,509,725 and $1,871,764, respectively. The financial statements have been updated through June 30, 2005 and reflect the cumulative deemed but unpaid dividends at June 30, 2005 of $2,228,789.

Note 8 to the financial statements on page F-16 under the caption "Deemed Dividends" has been revised to reflect the cumulative deemed but unpaid dividend numbers noted above. Please note that the deemed dividends and net loss per common share numbers disclosed in the Statement of Operations in the Registration Statement were presented correctly for the respective periods.

The dividends on the Series B and Series C preferred stock may be declared at the discretion of the Board of Directors in an amount equal to 10% of the accreted value per share and are payable in preference and priority to any declaration and payment of any distribution on Series A preferred stock or common stock and are cumulative. Since no dividends have been declared, the Company has not recorded a liability for the deemed but unpaid dividends. In the event that the Series B and Series C preferred stock are converted into common stock, any related deemed but unpaid dividends will be forfeited. Since no liability has been recorded for the deemed but unpaid dividends, there will be no accounting impact relating to these dividends upon conversion of the preferred stock into common stock.

Note 9. Warrants, page F-16

34. We noted various issuances of warrants in conjunction with sales of preferred stock and as compensation to consultations. Please revise to disclose how you accounted for and valued the issuance of these warrants. Also, disclose the fair value of your stock at the dates of issuance how the value was determined and the amount of any compensation expense recorded for each of the issuances.

Response: We have expanded the disclosure in the MD&A and in notes 8 and 9 to the financial statements (pages F-14 to F-19) to indicate how the Company accounted for and valued the issuance of its warrants. We have also disclosed in notes 8 and 9 to the financial statements the fair value of the Company's common stock at dates of issuances, how the value was determined, and any compensation expense recorded for each issuance.

35. We see that on April 5, 2005, the Board of Directors approved, subject to stockholder approval, the issuance of 1,305,321 shares of your common stock in exchange for 2,610,643 outstanding warrants and also see you consider this transaction to be an exchange of equity instruments at fair value which will have no net effect on stockholders' equity. Please tell us why you believe the described accounting is appropriate. Support your assertions with references to authoritative U.S. generally accepted accounting principles.

Response: Based on advice from the underwriters, the Company determined that it should attempt to negotiate an exchange of the 2,610,643 common stock warrants that were outstanding prior to the initial public offering for a lesser number of shares of common stock. Accordingly, the Company negotiated with the majority holders of its Series C preferred stock to exchange these warrants for common stock. The holders of Series C preferred stock as a class own substantially all of the Company's outstanding common stock warrants.

After extensive negotiations involving a variety of proposed exchange ratios, on April 5, 2005, the Company's Board of Directors approved, subject to stockholder approval, the issuance of 1,305,321 shares of our common stock in exchange for 2,610,643 warrants (a one-for-two exchange ratio).

The Company believes that the transaction described represents an exchange of equity instruments at fair value, based upon the extensive negotiating process and the use of the Black-Scholes option pricing model. The assumptions used in the Black-Scholes computation were: remaining life of warrant 6.25 years, risk free interest rate of 0.032, warrant strike price of $13.00 per share, and common stock value of $10.00 per share, the low end of the anticipated offering price range. Since the fair value of the common stock to be issued in exchange for the outstanding warrants is expected to be substantially the same as the fair value of these warrants, the Company believes the appropriate accounting treatment should have no net effect on stockholders' equity.

Note 11. Subsequent Events, page F-18

36. We see you decided to discontinue all operations associated with your DIFOTI product effective as of April 5, 2005. Note that for discontinued operations that are not yet required to be reflected in historical statements under FASB Statement 144, pro forma financial statements reflecting transaction for the latest balance sheet and income statements for all periods are required. Please revise the filing as necessary based on our comment.

Response: We have included historical financial statements covering the six months ended June 30, 2005, which included the April 5, 2005 date when the Board of Directors approved the discontinuation of DIFOTI(R) operations. Results of discontinued operations have been separately shown for all periods presented.

Part II

Item 16. Exhibits and Financial Statement Schedules

Exhibit 23.1

37. Please include a currently dated and signed consent from your independent auditors with any amendment filed.

Response: A currently dated consent signed by our independent auditors has been included in Amendment No.1.

* * * *

We hope that the foregoing has been responsive to the Staff's comments.

Should you have any questions relating to any of the foregoing, please feel free to contact the undersigned at (212) 328-6144. Thank you for your cooperation and attention to this matter.

Very truly yours,

/s/ Valerie A. Price

Valerie A. Price, Esq.

VAP/ma
Enclosure

cc: Joseph V. Gulfo, M.D
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