

June 26, 2007

Mail Stop 6010

Mark B. Knudson, Ph.D.
Chief Executive Officer
EnteroMedics Inc.
2800 Patton Road
St. Paul, Minnesota 55113

**Re: EnteroMedics Inc.
Registration Statement on Form S-1
Filed May 25, 2007
File No. 333-143265**

Dear Dr. Knudson:

We have reviewed your filing and have the following comments. 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.

Prospectus Cover Page

1. Please confirm that any preliminary prospectus you circulate will include all non-Rule 430A information. This includes the price range and related information based on a *bona fide* estimate of the public offering price within that range. Also note that we may have additional comments after you include this information.

Graphics

2. Please provide us with copies of your graphics so we can evaluate them.

Prospectus Summary

3. We note your reference to “significant and sustained” weight loss at the end of the first paragraph. Given the limited clinical data and the short time of your clinical trials, expand to provide the basis for this statement. Also clarify that you do not know if you will meet the FDA efficacy criterion in order to obtain FDA approval.

The Obesity Epidemic, page 1

4. Please furnish marked copies of studies that support the statistics cited, and tell us whether all industry data you cite in your document is publicly available. Also tell us whether:
 - you commissioned the industry reports;
 - the industry reports were prepared for use in your registration statement;
 - you are affiliated with the sources of the industry reports; and
 - the sources of the reports consented to being identified and to your use of their data in this registration statement.
5. We note that you make numerous claims regarding the expected safety and efficacy of your product, including that that Maestro System is a “safe, effective and less-invasive therapy.” It is our understanding that until the FDA has reached conclusions on the safety and efficacy of your product candidates, FDA regulations prohibit such promotional statements. Please remove from your prospectus statements that are inconsistent with the FDA regulations.
6. Revise the second paragraph to disclose the countries where your international clinical trials took place and the duration of the clinical trials. Also, reconcile the disclosure here with that on page 54 regarding complications.
7. Please disclose what other steps you will need to take before you can commercialize your product in the event that you obtain FDA approval.
8. In the last paragraph on page 3, revise to break out your most material risks into bulleted paragraphs in order to balance the disclosure in the summary.

Risk Factors, page 8

We depend on clinical investigators..., page 12

9. Expand to disclose here or in a separate risk factor the right of Mayo Clinic to terminate the license agreement which appears to cover the medical technology for your future products.

Dilution, page 31

10. We note the last paragraph stating that more than 21 million shares underlying options and warrants are not included in your calculations. Expand to disclose what the dilution would be if you assume that all outstanding options and warrants were exercised. Also disclose how the numbers and percentages in the table on page 32 would change, based on that assumption.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 35

Adoption of SFAS No. 123R, page 36

11. We note that on page 37 you refer to using valuations performed by an "unrelated valuation specialist," when determining fair value of your common stock. Please revise the filing to name the independent valuation expert here and in the Experts section, and include its consent as an exhibit. Refer to Rule 436 and Item 601(b)(23) of Regulation S-K.

Liability and Capital Resources, page 40

12. Revise to define, in greater detail, the financial and other covenants that you are required to maintain under your loans and notes payable agreements.
13. We note that you entered into a research and license agreement with the Mayo Foundation. If this agreement has had or is expected to have a material impact on your results of operations or liquidity, Management Discussion and Analysis should describe and quantify the known or expected impact the agreement will have on your financial statements. We may have further comment.

VBLOC-EC Trial, page 54

14. Expand to state the date you commenced this study. Explain why the weight loss for those in this study is so much higher at the 3 month and 6 month periods for their participation in the first study than the averages shown in the table at the bottom of page 53 for the entire group.
15. We also note that those in the EC trial received diet, behavior modification and exercise advice. Explain how you will be able to determine the effect these additional weight loss techniques will have on efficacy of your medical therapy. Provide similar disclosure with regard to the VBLOC-RF2 trial.

Mayo Clinic Relationship, page 58

16. Expand to describe the material terms of your agreement with Mayo Clinic and the extent to which it is responsible for developing the medical technology that will be used in your future products and its expected role in future clinical trials.

Medical Advisors, page 58

17. Disclose the compensation and share ownership provided by the registrant to your medical advisors.

Intellectual Property, page 62

18. Please disclose the duration of the material patents.

Clinical Trials, page 65

19. Please disclose any material conditions to the IDE approval from the FDA. Add risk factor disclosure if appropriate.

Executive Compensation, page 74

Compensation Discussion and Analysis, page 74

20. Expand the second paragraph to clarify the extent to which Mr. Knudson participated in determining his own compensation in 2006.
21. We note that you state the new compensation committee “discharges the responsibilities of [your] board of directors,” but it also appears that the board makes the final decision. Please revise to clarify.

Compensation Philosophy, page 74

22. Please replace vague disclosure throughout this entire section with meaningful information that investors can use to evaluate the compensation program. For example, where you refer to “competitive compensation opportunities,” “financial success,” “personal performance,” “overall company performance,” “individual performance,” “market factors,” “performance objectives,” and “significant percentage” please disclose with specificity how you define those terms. In the appropriate location in the disclosure, expand to describe the individual goals that are considered in making compensation decisions. Please see instruction 3 to Item 402(b) of Regulation S-K

Compensation Determination Process and Components, page 74

23. We note the reference to compensation surveys in the last paragraph on page 74. Please identify the surveys you used and their components, including component companies. Clarify whether you benchmark base salaries to the 50th percentile or to a salary range. Also, while it appears that you benchmark with regard to base salaries, explain how you determined that your “overall salary structure” is generally at the mid-point compared to the benchmark companies. Please explain how you determined the other companies’ overall salary structures. See Item 402(b) (2) (xiv) of Regulation S-K.
24. Expand to discuss the “specific short-term goals” upon which you base cash bonus compensation.

25. We note the CEO does not make an “*initial*” recommendation on his own compensation. Expand to describe what input he had on his own compensation for 2006. Clarify whether the CEO participates in any way, other than in making compensation recommendations for the other executive officers.

Base Salary, page 75

26. We note your disclosure about how annual salaries are set to be “market competitive” after reviewing each individual’s “experience” and “performance” for the prior year. Please describe specifically how these factors were used to make compensation decisions during the applicable periods. Also, please explain the reasons why the board decided to implement a four percent across the board salary increase for 2007. See Item 402(b)(2)(ix) of Regulation S-K.

Annual Cash Incentives, page 75

27. Identify the “certain milestones” regarding the clinical trial that applied as performance objectives for 2006.
28. Explain what factors the board considered in determining the percentages that would apply if described objectives were met.
29. Explain in more detail the performance objectives and financial budgetary goals established for 2007 that will be considered in determining annual cash incentive compensation. Clarify how annual cash incentives will be determined if some, but not all, corporate performance objectives are met.

Long-Term Incentive Awards, page 87

30. Please explain how you determined the amounts of stock options to be granted to your executive officers. Please describe the elements of “individual experience, contributions and achievements” that are taken into account in granting these options. Your revised disclosure also should clarify the reasons for the relative size of the grants among the officers. See Item 402(b)(2)(vii) of Regulation S-K.
31. Please clarify whether the CEO makes recommendations for the number of stock option he is granted. We note your disclosure at the end of the second full paragraph on page 75 regarding not making an “initial” recommendation on his own compensation. See Item 402(b)(2)(xv) of Regulation S-K.

Principal Stockholders, page 90

32. Please identify the individuals with beneficial ownership over the shares held by each of the entities described in the table.

Related Party Transactions, page 93

33. With regard to the convertible note offering on page 95 and the bridge loan financing on page 96, please disclose the number of shares of preferred stock that was issued to each of the related parties.

Additional Security Issuances, page 97

34. Please describe the services Dr. Harrison performed to permit continued vesting.

Consulting Agreements, page 97

35. Please file as exhibits the agreements described in this section.
36. Please describe the services performed by VDI. Disclose any services or payments for 2007.
37. Please describe the services provided by Mr. Griffin to the company.
38. Please quantify the payments made under the sublease agreement. Also, we note there are other payments made to Restore for services as described in Note 15 on page 58. Please describe and quantify those payments here.
39. Please provide the disclosure requested by Item 404(b).

Financial Statements, page F-1

40. Consideration should be given on an ongoing basis to the updating requirements of Rule 3-12 of Regulation S-X. All amendments should contain a currently dated accountant's consent.

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

41. Please ensure you provide a signed opinion in all future amendments.
42. Please confirm that the period from inception through December 31, 2006 has been audited by your independent registered accounting firm. Auditor association with the cumulative data is required on an annual basis as long as a registrant is in the development stage.

Note 1. Formation and Business of the Company, page F-16

43. Revise to disclose if Enteromedics Europe is a wholly-owned subsidiary and therefore consolidated. If not, disclose the percentage ownership and your accounting.

Note 2. Summary of Significant Accounting Policies, page F-16

Unaudited Pro Forma Presentation, page F-17

44. We note that the pro forma balance sheet data presented as of March 31, 2007 does not include 1,875,000 shares issued to the Mayo Foundation. Please reconcile this with your disclosure on page pages 5 and 7 where you included the issuance of the shares to the Mayo Foundation. It does not appear your pro forma adjustments are consistent. Please explain.

Cash and Cash Equivalents, page F-18

45. We note your disclosure that in the event of default under the terms of your notes payable agreements the lender has the right to enforce account control agreements and restrict access to your cash and investment accounts. You refer to Note 6, where you discuss that all of your loans are collateralized by a first security priority lien and that the company was in compliance with all covenants related to the notes payable at March 31, 2007 and December 31, 2006. Please revise your disclosure to specifically discuss all events of default as defined in the notes payable agreements. Please also explain the account control agreements and the note holders' ability to restrict access to your cash and investment accounts.

Stock-Based Compensation, page F-20

46. We note that you refer to the pro forma impact of stock option grants prior to the adoption of SFAS 123R under the "provisions of the minimum value method." If true, under paragraph 85 of SFAS 123R, when you used the minimum value method for pro forma disclosure for pro forma disclosure purposes under SFAS 123 you should not continue to provide those pro forma disclosures for outstanding awards after adopting SFAS 123R. Please revise or advise.

Net Loss Per Share, page F-21

47. Please revise the filing to provide a reconciliation of how you computed the basic earnings per share from continuing operations for the three months ended March 31, 2007. We noted your discussion of your convertible participating preferred stock on page F-30. Tell us more about your participating securities and how you have considered EITF 03-6, *Participating Securities and the Two-Class Method under FASB Statement No. 128*, in computing basic earnings per share.

Note 9. Series C Convertible Preferred Stock Financing, page F-30

48. We note that you have issued Series A, B and C convertible preferred stock and warrants.
- Please revise the filing to clearly disclose all the material terms of the convertible preferred stock and warrants, including but not limited to, the conditions under which the company or the holder may convert into common shares, the conversion rate and all conditions that may result in adjustments to that rate, any conditions under which the company or the holder may redeem the stock, and the dividend rates and any adjustments thereto. Likewise, please clearly describe the material terms of all related agreements, such as registration rights agreements and guarantee agreements.
 - Describe clearly how you have accounted for the Series A, B and C convertible preferred stock, including any related discounts, any beneficial conversion features pursuant to EITF 98-5 or any embedded derivatives requiring bifurcation pursuant to SFAS 133 and EITF 00-19.
 - Provide a similar discussion of your accounting for the warrants.

Note 11. Convertible Participating Preferred Stock, page F-30

49. We note that all classes of your preferred stock are mandatorily convertible upon a qualified initial public offering whereby the public offering price is not less than \$2.64 per share and results in gross proceeds to the company of at least \$30 million in the aggregate. It appears that if your offering price per share is not at least \$2.64 per share and the offering does not raise at least \$30 million, the pro forma adjustment will not be accurate. Please advise.
50. We note that your Series A, B, and C convertible preferred stock automatically convert if the date specified by written consent or agreement of the holders of at least sixty-three percent (63%) of the then outstanding shares of Series C Preferred Stock and Series B Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis). Please provide us with your analysis regarding the classification of the Series A, B and C shares as permanent equity. Please refer to EITF Topic D-98.

Note 13. Stock Options, page F-33

51. Provide us with an itemized chronological schedule detailing each issuance of your ordinary shares, stock options, preferred stock and warrants by the company or principal stockholder since April 2006 through the date of your response. Include the following information for each issuance or grant date:

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

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. Progressively bridge 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). We will delay our assessment of your response pending inclusion of the estimated IPO price in the filing.

Note 15. Related Party Transactions, page F-38

52. We note on page 97, that you entered into a consulting agreement with Bobby Griffin, a member of your board of directors. Pursuant to this consulting agreement, Mr. Griffin received a one-time option grant to purchase 500,000 shares of common stock at \$0.21 per share. Please tell us and revise to disclose this agreement and your method of accounting. Refer to the guidance in SFAS 57.

Note 16. Commitments and Contingencies, page F-38

53. We note you entered into a research and license agreement with the Mayo Foundation. Please revise to disclose in greater detail the significant terms and accounting policies related to this agreement. Specifically:
- Revise to disclose the royalty terms and rates under the agreement, including the per product percentage and minimum amount which would commence upon your first sale.
 - Clarify in your disclosures what year the annual retainer payments of \$250,000 started.
 - Tell us more about the issuances of shares to the Mayo Foundation. We noted that you recorded the cost associated with the 2,000,000 shares that were issued in 2005 over a five-year term. However, it appears you plan to recognize the cost associated with the issuance of the 1,875,000 shares immediately upon an IPO. Please explain the varying terms. In your discussion please also tell us about the other circumstances upon which you would be required to issue the shares, including FDA approvals and

patent issuances, and how the cost of the shares would be recognized if these activities trigger the issuance of the 1,875,000 shares.

- We may have further comment.

Exhibits

54. We note your reference to an application for confidential treatment. We will review and provide any comments related to your request separately. Comments must be resolved and your application must be complete before we may accelerate the effective date of your registration statement.

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment 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 amendment and 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 Act of 1933 and that they have provided all information investors require for an informed investment 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness 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 connection with our review of your filing or in response to our comments on your filing.

Mark B. Knudson, Ph.D.
EnteroMedics Inc.
June 26, 2007
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We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Julie Sherman at (202) 551-3640 or in her absence, Angela Crane at (202) 551-3554 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Mumford at (202) 551-3637 or me at (202) 551-3800 with any other questions.

Sincerely,

Peggy Fisher
Assistant Director

cc (via Fax): Kenneth L. Cutler, Esq.
Ted S. Hollifield, Esq.