

July 27, 2007

Mail Stop 6010

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

**Re: EnteroMedics Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed July 6, 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.

Graphics

1. We note your new graphics. The second and third pages provide extensive narrative text which is repeated in the summary and the business section. Please revise to remove or reduce duplicative text in the graphics. If you retain narrative text in the graphics, please revise the cautionary language to also state that your product is not FDA approved on each page.

Prospectus Summary

2. We note that the first sentence refers to "other gastrointestinal disorders." Expand the summary to discuss these other disorders, and describe the current stage of development of your device to treat them, or delete the reference.
3. Please clarify in the summary that you have been informed that the FDA's standard for effectiveness of your device, based on a percentage of estimated

weight loss compared to a control group, is much higher than the percentage of estimated weight loss that the registrant believes is effective. Also state that unless your device satisfies the FDA's efficacy standard, you may not receive FDA approval.

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

Liquidity and Capital Resources, page 40

4. Please refer to prior comment 12. Clarify if there are any financial or other covenants that you are required to maintain under your loans and notes payable. If so, revise to disclose.

VBLOC-EC Trial.

5. We note your response to prior comment 15. In the third paragraph on page 56, define "formal bariatric program," and explain in more detail why it and a "better selection of patients" would cause the results to be different. Explain what factors caused the patients to fit the program criteria better.

Mayo Clinic Relationship, page 59

6. We note your response to prior comment 16. Tell us whether you believe the "novel" technology developed through your collaboration with the Mayo Clinic will be used in future products.
7. Revise the disclosure to clarify more specifically what role Mayo Clinic played in assisting in the development of your current VBLOC technology.

Executive Compensation, page 6

Compensation Discussion and Analysis, page 76

8. We note your responses to comments 20, 25 and 31 regarding your CEO's role in setting his own compensation. However, the nature and extent of his role in the process is unclear and appears to conflict in different contexts. We note the the following statements:
 - that he does not participate in the "final determination" of his own compensation in the second paragraph on page 76;
 - that he does not participate in any way other than in making recommendations for other officers in the third paragraph on page 77; and
 - that he "has not historically make a recommendation to the committee as to the number of stock options he is granted" on the top of page 80.Please reconcile the disclosure throughout this discussion.

Annual Cash Incentives, page 78

9. We note your response to prior comment 27. Please quantify the target number of subjects and describe “post-implantation follow-up” in further detail, given that these measures made up a large portion of the bonus calculation.

Long-Term Incentives, page 79

10. We note your response to prior comment 30 and reissue the comment in part. Your revised disclosure should explain how amounts were determined and clarify the reasons for the relative size of the grants among the officers. Also disclose whether the compensation committee adopted the recommendations of the CEO and whether he recommended the number of stock options he should receive in 2006.

Related Party Transactions, page 97

11. We note your response to prior comment 39 regarding review of related party transactions. Please disclose the standards to be applied pursuant to such policies and procedures pursuant to Item 404(b)(1)(ii) of regulation S-K.

Financial Statements, page F-1

Consolidated Statement of Operations, page F-4

12. It appears that it would be appropriate to also disclose pro forma earnings per share for the most recent fiscal year and interim period assuming conversion of preferred securities, as you have done in your selected financial data. Please expand your disclosures accordingly, or advise us why you do not consider these disclosures to be appropriate.

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

Unaudited Pro Forma Presentation, page F-17

13. Please refer to prior comment 44. We noted your discussion that the event is factually supportable but you can not yet determine the price at which the shares would be issued. Please clarify for us why you believe it is appropriate that the two pro forma presentations within the same filing are different. Tell us if you plan to revise the pro forma balance sheet data to include the impact of the issuance of the shares to the Mayo Foundation prior to effectiveness.

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

14. Please refer to prior comment 49. We note from your response that you assumed a 1:1 conversion of all issued and outstanding shares of preferred stock into common stock in completing the pro forma balance sheet. Please explain why you

believe this ratio to be appropriate. Per your response to our prior comment 48, we note the Series A, B, and C convertible preferred shares are all convertible into common stock at ratios of \$.4657, \$.4333 and \$.8893 per share, respectively. In addition, we note the disclosure on page F-31 that Series A, Series B and Series C shares are convertible into 4,482,746, 39,002,196 and 51,957,735 shares of common stock. Based on these amounts, it appears only Series B and Series C have a 1:1 conversion ratio. Please reconcile the information above and explain. We may have additional comments after reviewing your response.

15. We note that the preferred stock converts automatically upon the effective date of an IPO if the offering price per share is not less than \$2.64 per share. In view of the fact that you are planning to amend your certificates of incorporation to provide for a lower threshold for the public offering price, it appears that the conversion does not appear to be factually supportable unless and until you amend these documents. Also, please tell us if you need to obtain the written consent of the preferred shareholders to reduce the price per share at which the stock will automatically convert. Note, if you do need these consents and you do not obtain and file these consents in a pre-effective amendment, you must delete the effect of automatic conversion of the preferred stock from all disclosures of pro forma stockholders' equity in the registration statement. Please revise or advise.
16. Please refer to prior comment 50. It appears that since 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 further clarification with regards to the terms of the preferred shares and your analysis of paragraph 4 of EITF D-98. Note that redemption features that are not solely within the control of the issuer should be classified outside of permanent equity. Revise or advise.

Note 13. Stock Options, page F-33

17. Please refer to prior comment 51. Please respond to the following:
 - As previously requested, provide us with an itemized chronological schedule detailing each issuance since April 2006, which includes (a) grant date; (b) the number of shares issued or issuable in the grant; (c) purchase price or exercise price per share; (d) vesting; (e) fair value per share on grant date and how management determined; and (f) recipient and relationship to company.
 - We see that you had discussions with multiple underwriting organizations to consider the possibility of an IPO between February 19, 2007 and March 2, 2007, and that you reached an agreement with your current underwriters on March 2, 2007. Please discuss the specific dates and pricing discussions you

had with investment bankers and underwriters. Progressively bridge management's fair value determination and these pricing discussions.

- Please update the option activity to the most recent practical date.
 - We note that you have not disclosed an estimated offering price. Be advised that we are deferring final evaluation until the estimated offering price is specified.
18. We note on page F-34 that you refer to using valuations performed by an "unrelated valuation specialist," when determining fair value of your common stock. Please revise the filing to specifically name the independent valuation expert. If this expert is not Gemini Valuation Services, please revise the filing to include their consent as an exhibit. Refer to Rule 436 and Item 601(b)(23) of Regulation S-K.

Note 15. Related Party-Transactions, page F-39

19. Please refer to prior comment 52. Please tell us in detail how you accounted for the shares issued to Mr. Griffin. Reference to accounting literature without elaboration is not sufficient. Revise disclosure to clarify as well.

Note 16. Commitments and Contingencies, page F-39

20. Please refer to prior comment 13 and 53. We have the following additional comments:
- We note that you have four obesity-related patents from the Mayo Clinic, but none of these patents relate to your VBLOC technology, and therefore you believe no royalty payment will be due to Mayo in connection with the sale of your product. Please reconcile this comment with the disclosure on page F-41, that the agreement with Mayo is subject to a minimum annual royalty payment. Revise to disclose the minimum royalty payments due, if you believe no royalty payment will be due to Mayo, revise to clarify.
 - Regarding the 2,000,000 shares of common stock issued to the Mayo Foundation, please explain what portion of the shares were issued for (a) current Mayo patents; (b) future Mayo patents and (c) obesity group know-how. Further support that amounts should be deferred and capitalized rather than expensed.
 - We also note that the shares are non-refundable and Mayo can terminate the agreement three years after the effective date without cause. Please explain why it is appropriate to amortize the deferred compensation expense over five-years.
 - In this regard, explain in greater detail how you determined the fair value of the 2,000,000 shares issued.

- Tell investors if there are any other fees you may be required to pay to the Mayo Foundation in cash or shares, including any milestone payments, retainer fees, or any portion of revenues earned that must be paid to the Mayo Foundation.
- Revise MD&A as appropriate based on our concerns.
- We may have additional comments after reviewing your response.

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.

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.