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

DIVISION OF
CORPORATION FINANCE

April 2, 2014

Via E-Mail
Terrence E. Winters, Ph.D.
Co-Chairman of the Board &
Chief Executive Officer
Vital Therapies, Inc.
15222 Avenue of Science, Suite B
San Diego, CA 92128

Re: Vital Therapies, Inc.
Amendment No. 4 to Registration Statement on Form S-1
Filed March 11, 2013
File No. 333-191711

Dear Dr. Winters:

We have reviewed your amended registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Prospectus Summary
Overview, page 1

1. We note your disclosure that the ELAD system has received orphan designation in the United States and Europe for the treatment of acute liver failure. Please revise your disclosure in this section to indicate the benefits conveyed by this designation. In addition, please clarify that the granting of a request for orphan designation does not alter the standard regulatory requirements and process for obtaining marketing approval.

2. We note your disclosure that you are currently conducting two Phase 3 clinical trials in VTI-208 and VTI-210, respectively. However, we also note your disclosure that you expect to initiate enrollment of subjects in your Phase 3 trial for VTI-210 in the first half of 2014. As such, it does not appear that you have yet commenced Phase 3 clinical trial for VTI-210. Please revise your disclosure in this section and throughout the registration

statement to address this inconsistency. In addition, you should also revise charts illustrating clinical development in the prospectus to clarify that clinical trials for VTI-210 have not yet entered Phase 3.

3. Please define the term "ultra-orphan" at your first use, indicate whether this designation is used by FDA or EMA, and explain why a Phase 3 trial may not be necessary to obtain marketing approval for VTI-212 following receipt of data from the Phase 2 trial. Please also indicate whether the FDA or EMA has indicated that Phase 3 trials may not be necessary for VTI-212.

Use of Proceeds, page 41

4. Please revise your disclosure in this section to indicate how your use of proceeds from the offering will be allocated towards the clinical development for each of VTI-208, VTI-210, and VTI-212, respectively.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Subjective Judgments and Estimates
Stock-based Compensation, page 54

5. Please expand your disclosure to state that valuation of your common stock prior to the planned offering involves estimates that are highly complex and subjective and that these estimates will not be necessary to determine the fair value of new awards once the underlying shares begin trading.

   We may have additional comments on your accounting for stock compensation or any beneficial conversion features once you have disclosed an estimated offering price. Please supplementally provide us with a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of each equity issuance since December 2013 through the date of effectiveness.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company 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.

Please refer to Rules 460 and 461 regarding requests for acceleration. 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. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Franklin Wyman at (202) 551-3660 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Christina De Rosa at (202) 551-3577, Bryan Pitko at (202) 551-3203, or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ *Bryan J. Pitko* for

Jeffrey P. Riedler
Assistant Director

cc: Via E-Mail
Martin J. Waters
Wilson Sonsini Goodrich & Rosati,
Professional Corporation
12235 El Camino Real, Suite 200
San Diego, CA 92130-3002