



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

March 13, 2018

Via E-mail

Timothy P. Herbert
Chief Executive Officer
Inspire Medical Systems, Inc.
9700 63rd Ave. N., Suite 200
Maple Grove, MN 55369

**Re: Inspire Medical Systems, Inc.
Draft Registration Statement on Form S-1
Submitted February 14, 2018
CIK No. 0001609550**

Dear Mr. Herbert:

We have reviewed your draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Overview, page 1

1. Expand the disclosure in the first paragraph of this section to disclose that the approval is for specific indications as mentioned in the first risk factor on page 33 and briefly describe the specific indications.
2. Please tell us whether the peer-reviewed articles that you reference are based upon data provided by you or by unrelated third parties. Also, tell us whether there are other peer-reviewed articles or other information available about your system, especially those that address any negative findings relating to your system.

Our Market Opportunity, page 2

3. Clearly explain each step you must take to commercialize your technology, including the material hurdles you must overcome at relevant junctures. If such information is appropriate for your prospectus summary, carefully consider the information that is the most significant, and briefly highlight that information in the summary and include more detailed disclosure elsewhere in your prospectus.

Significant body of strong clinical data, page 4

4. You disclose that four sponsored and more than five independent clinical studies have evaluated more than 750 patients using your treatment. Please clarify how many patients were evaluated in connection with independent studies.

Implications of Being an Emerging Growth Company, page 6

5. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

Market and Industry Data, page 57

6. Tell us whether you commissioned any of the data that you attribute to third parties in your registration statement.
7. We note your statement that information in the prospectus is based on industry and general publications and research, surveys and studies conducted by third parties which you have not independently verified. You are responsible for the entire content of the registration statement and should not include language that can be interpreted as a disclaimer of information you have chosen to include. Please revise.

Use of Proceeds, page 58

8. Disclose the approximate amount of proceeds that you currently intend to use for each purpose mentioned in the second paragraph on page 58. You may reserve the right to change the use of proceeds as described in Instruction 7 to Item 504 of Regulation S-K. If you have no current specific plan for the proceeds, or a significant portion of the proceeds, please say so directly and discuss the principal reasons for this offering.

Government Regulation, page 108

9. Clarify in which jurisdictions you have received the regulatory clearances necessary for your system to be sold.

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Management, page 122

10. Ensure that your disclosure provides the five year background with all information required by Item 401(e) of Regulation S-K. For example, disclose when Mr. McCormick served on the board of directors of Entellus, Nevro and Surmodics.

You may contact Jeanne Bennett at (202) 551-3606 or Gary Todd, Senior Accountant, at (202) 551-3605 if you have questions regarding comments on the financial statements and related matters. Please contact Tom Jones at (202) 551-3602 or Daniel Morris, Special Counsel, at (202) 551-3314 with any other questions.

Sincerely,

/s/ Amanda Ravitz

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery

cc: B. Shayne Kennedy