



August 1, 2016

VIA EDGAR

Russell Mancuso
Heather Percival
Division of Corporation Finance
United States Securities and Exchange Commission
450 Fifth Street, N.W., Mail Stop 3030
Washington, DC 20549

**Re: MRI Interventions, Inc.
Amendment No. 2 to Registration Statement on Form S-1
Filed July 25, 2016
File No. 333-211647**

Dear Mr. Mancuso and Ms. Percival:

We hereby submit the responses of MRI Interventions, Inc. (the "Company") to the comments of the staff of the Division of Corporation Finance (the "Staff") contained in your letter, dated July 28, 2016, to Harold A. Hurwitz, the Chief Financial Officer of the Company, in connection with the Registration Statement on Form S-1/A filed on the first date above (the "Amendment No. 3"), which amended the Company's Registration Statement on Form S-1 filed on May 26, 2016, as amended on July 7, 2016 and as further amended on July 25, 2016 (the "Amended Registration Statement").

For convenience of reference, each Staff comment contained in your letter is reprinted below in italics, numbered to correspond with the paragraph numbers assigned in your letter, and is followed by our corresponding response. Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Amended Registration Statement

Prospectus

- 1. Please revise your prospectus to include all information except that which may be excluded pursuant to Rule 430A. For example, we note that you continue to omit from your prospectus cover the number of common shares underlying the warrants, and you omit from your prospectus cover the number of securities subject to the over-allotment option and the number of securities to be issued as underwriters' compensation. Also, note that your preliminary prospectus should include disclosure, such as "use of proceeds" information, based on a bona fide estimate of the public offering price. See Section II.A.7 of Release 33-6714 (May 7, 1987), and note the requirements of Regulations S-K Item 512(i).*
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Company Response: We have revised the disclosure in Amendment No. 3 in several sections, including the “Use of Proceeds” information, based on a bona fide estimate of the public offering price and supplementally advises the Staff that it has indicated that the information presented based on the bona fide estimate of the public offering price is illustrative only and will change based on the actual offering price and other terms of the offering determined at pricing. Finally, we have revised the disclosure to address the requirements of Regulation S-K Item 512(i).

Note Conversion, page 3

2. *It appears that you entered into an agreement for investors to participate in this offering before the effective date of this registration statement. Please provide us your analysis of how the timing of this agreement is consistent with Section 5 of the Securities Act. Cite in your response all authority on which you rely.*

Company Response: We acknowledge the Staff’s comment and advise the Staff that securities issuable to the note holders upon conversion of their notes will be exempt securities issued in a private transaction under the Securities Act of 1933, as amended (the “Securities Act”), and not as part of this public offering. As such, we have revised the disclosure in the Amended Registration Statement accordingly. Additionally, we advise the Staff that, with our legal counsel, we performed an integration analysis with respect to the concurrent private and public offerings, which analysis included due consideration of the relevant guidance provided by the Division of Corporation Finance (the “Division”), as well as the Division’s previously issued no-action letters and its publicly available Compliance and Disclosure Interpretations. Based on that analysis, we have concluded that the private offering described under the caption “Note Conversion” on page 3 is exempt from the registration requirements of Section 5 of the Securities Act and should not be integrated into this public offering.

Exhibit 5.1

3. *It is unclear whether this exhibit addresses the common stock issuable upon the exercise of the underwriter warrants. Please file a revised opinion that clearly addresses all securities in the fee table on the facing page of this registration statement.*

Company Response: We have filed a revised opinion as Exhibit 5.1 that addresses all of the comments raised by the Staff.

4. *Please file an opinion that addresses whether the rights are binding obligations of the registrant under the law of the jurisdiction governing your warrant agreement. We note that exhibit 5.1 is limited to the Delaware General Corporation Law, but your warrant agreements filed as exhibits 4.5 and 4.6 appear to be governed by the laws of the State of New York.*

Company Response: We have filed a revised opinion as Exhibit 5.1 that addresses all of the comments raised by the Staff.

As requested in the Comment Letter, the Company acknowledges that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, does not foreclose the Commission from taking any action with respect to the filing; and
- 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.

We would very much appreciate the Staff's prompt review of Amendment No. 3. Should you have any additional questions, please call me at (949) 900-6836 or our counsel, Richard Mattern, at (901) 543-5933.

Very truly yours,
MRI Interventions, Inc.

/s/ Harold A. Hurwitz

Harold A. Hurwitz
Chief Financial Officer

Cc: Richard Mattern
