

MRI Interventions, Inc.

6,753,097 Shares of Common Stock

This prospectus supplement relates to the prospectus dated June 20, 2016, as supplemented by prospectus supplement no. 1 dated July 1, 2016, which permits the resale of up to 3,972,410 outstanding shares of our common stock, and 2,780,687 shares of our common stock issuable upon the exercise of outstanding warrants, by the selling securityholder identified in the prospectus, as amended and supplemented from time to time. We will pay the expenses of registering the shares of our common stock, but we are not selling any shares of common stock in this offering and therefore will not receive any proceeds from this offering. We will, however, receive the exercise price of the warrants, if and when the warrants are exercised for cash by the selling securityholder.

This prospectus supplement is being filed to update, amend and supplement the information previously included in the prospectus with the information contained in our Current Report on Form 8-K filed with the Securities and Exchange Commission on July 26, 2016 (the "8-K"). Accordingly, we have attached the 8-K to this prospectus supplement. You should read this prospectus supplement together with the prospectus, which is to be delivered with this prospectus supplement.

Our common stock is traded in the over-the-counter market and is quoted on the OTCQB Marketplace and the OTC Bulletin Board under the symbol MRIC. On July 25, 2016, the last reported sale price of our common stock was \$0.22 per share.

We are an "emerging growth company" under the federal securities laws and are subject to reduced public company reporting requirements. Investing in our common stock involves risk. See "Risk Factors" beginning on page 6 of the prospectus to read about factors you should consider before buying shares of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus or this prospectus supplement. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is July 26, 2016.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 26, 2016

MRI INTERVENTIONS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation)

000-54575 (Commission File Number) 58-2394628 (IRS Employer Identification No.)

92618

(Zip Code)

5 Musick Irvine, CA (Address of principal executive offices)

(949) 900-6833 (Registrant's telephone number, including area code)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 3.03. Material Modification to Rights of Security Holders.

The information required by this Item 3.03 is set forth under Item 5.03 below and is hereby incorporated by reference in response to this Item.

Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

On July 26, 2016, MRI Interventions, Inc. (the "Company") filed a Certificate of Amendment of Certificate of Incorporation with the Secretary of State of Delaware (the "Certificate of Amendment") to effect a 1-for-40 reverse stock split (the "Reverse Stock Split") of the shares of the Company's common stock, par value \$0.01 per share ("Common Stock"), effective as of 4:01 p.m. Eastern Time on July 26, 2016. As previously disclosed, the Reverse Stock Split is intended to permit the Company to meet one of the listing criteria for The Nasdaq Capital Market; however, there can be no assurance that the Company will be able to satisfy all of the listing criteria.

The Reverse Stock Split will reduce the number of shares of Common Stock outstanding from approximately 96.1 million shares to approximately 2.4 million shares, subject to adjustment for the payment of cash in lieu of fractional shares. The number of authorized shares of Common Stock under the Certificate of Incorporation will not change. In addition, proportionate adjustments will be made to the per share exercise price of, and the number of shares underlying, all outstanding options and warrants to purchase shares of Common Stock, and the number of shares reserved for issuance pursuant to the Company's equity compensation plans will be reduced proportionately.

The foregoing description of the Certificate of Amendment is qualified in its entirety to the Certificate of Amendment which is filed as Exhibit 3.1 herewith and incorporated herein by reference.

The new CUSIP number for the Common Stock following the Reverse Stock Split is 55347P 209.

Stockholders who are holding their shares in electronic form at brokerage firms do not have to take any action as the effect of the Reverse Stock Split will automatically be reflected in their brokerage accounts. Stockholders who hold physical certificates will receive a transmittal letter from the Company's transfer agent explaining how to obtain stock certificates with the new CUSIP number.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

See Exhibit Index immediately following signature page.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MRI INTERVENTIONS, INC.

By: /s/ Harold A. Hurwitz

Harold A. Hurwitz Chief Financial Officer

Date: July 26, 2016

EXHIBIT INDEX

Exhibit No. Description

3.1 Certificate of Amendment of Certificate of Incorporation of MRI Interventions, Inc., filed with the Secretary of the State of Delaware on July 26, 2016

CERTIFICATE OF AMENDMENT TO AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF

MRI INTERVENTIONS, INC.

(Pursuant to Section 242 of the General Corporation Law of the State of Delaware)

MRI INTERVENTIONS, INC., a corporation duly organized and existing under and by virtue of the General Corporation Law of the State of Delaware, **DOES HEREBY CERTIFY**:

FIRST: That the name of the corporation is MRI Interventions, Inc.

SECOND: That the Amended and Restated Certificate of Incorporation of MRI Interventions, Inc., as amended, is hereby amended by deleting Section A of Article IV thereof and substituting the following in its place:

A. <u>Authorized Stock</u>. The total number of shares which the Corporation shall have authority to issue is Two Hundred Twenty Five Million (225,000,000), consisting of Two Hundred Million (200,000,000) shares of Common Stock, par value \$0.01 per share (the "<u>Common Stock</u>"), and Twenty Five Million (25,000,000) shares of Preferred Stock, par value \$0.01 per share (the "<u>Preferred Stock</u>"). Upon this Certificate of Amendment becoming effective pursuant to the General Corporation Law of the State of Delaware (the "<u>Effective Time</u>"), the shares of Common Stock issued and outstanding or held in treasury immediately prior to the Effective Time (the "<u>Old Common Stock</u>") shall be reclassified as and converted into a different number of shares of Common Stock (the "<u>New Common Stock</u>") such that each forty (40) shares of Old Common Stock shall, at the Effective Time, be automatically reclassified as and converted into one share of New Common Stock. From and after the Effective Time, certificates representing the Old Common Stock shall represent the number of whole shares of New Common Stock into which such Old Common Stock shall have been reclassified pursuant to this Certificate of Amendment. No fractional shares of Common Stock shall be issued as a result of such reclassification and combination. In lieu of any fractional shares to which the stockholder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then fair value of the Common Stock as determined in good faith by the Board of Directors of the Corporation.

THIRD: That the foregoing amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

FOURTH: That this Certificate of Amendment shall be effective as of 4:01 p.m. eastern time on July 26, 2016.

[Signature Page to Follow.]

IN WITNESS WHEREOF, said corporation has caused this Certificate of Amendment to be signed by its duly authorized officer on this 26th day of July, 2016.

MRI INTERVENTIONS, INC.

By: /s/ Francis P. Grillo

Francis P. Grillo Chief Executive Officer