



**MRI Interventions, Inc.**

**13,807,533 Shares of Common Stock**

This prospectus supplement relates to the prospectus dated July 7, 2017, as supplemented by prospectus supplement no. 1 dated August 11, 2017, prospectus supplement no. 2 dated August 18, 2017 and prospectus supplement no. 3 dated September 5, 2017, which permits the resale of up to 6,693,333 outstanding shares of our common stock and 7,114,200 shares of our common stock issuable upon the exercise of outstanding warrants, by the selling securityholders 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 securityholders.

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 (the "SEC") on October 3, 2017 (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 October 2, 2017, the last reported sale price of our common stock was \$2.59 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 12 of the prospectus to read about factors you should consider before buying shares of our common stock.*

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**Neither the SEC 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 October 3, 2017.

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM 8-K**

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**CURRENT REPORT**

Pursuant to Section 13 OR 15(d) of the  
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported):  
October 3, 2017

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**MRI INTERVENTIONS, INC.**

(Exact name of registrant as specified in its charter)

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**DELAWARE**  
(State or other jurisdiction  
of incorporation)

**001-34822**  
(Commission  
File Number)

**58-2394628**  
(I.R.S. Employer  
Identification Number)

**5 Musick**  
**Irvine, Ca. 92618**  
(Address of principal executive offices, zip code)

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

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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:

- 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))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging Company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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**Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.**

The annual meeting of the stockholders of MRI Interventions, Inc. (the “Company”) was held on October 3, 2017 (the “Annual Meeting”). At the Annual Meeting, the Company’s stockholders voted to approve the adoption of the MRI Interventions, Inc. Second Amended and Restated 2013 Incentive Compensation Plan (the “Plan”). The Company’s Board of Directors had previously adopted and approved the Plan, subject to stockholder approval. A description of the terms and conditions of the Plan is set forth in the Company’s 2017 Proxy Statement, filed with the Securities and Exchange Commission on September 5, 2017 (the “Proxy Statement”) under “Proposal 3 — Approval of Second Amended and Restated 2013 Incentive Compensation Plan,” and such description is incorporated herein by reference. The descriptions set forth herein and in the Proxy Statement are summaries and are qualified in their entirety by the full text of the Plan, a copy of which is incorporated by reference to Exhibit 10.1 to this Current Report on Form 8-K.

**Item 5.07. Submission of Matters to a Vote of Security Holders.**

At the Annual Meeting, the Company’s stockholders considered and voted on the following proposals:

- (1) The election of seven directors to serve until the 2018 annual meeting of stockholders;
- (2) The ratification of the appointment of Cherry Bekaert LLP as the Company’s independent registered public accounting firm for the year ending December 31, 2017; and
- (3) The approval of the Company’s Second Amended and Restated 2013 Incentive Compensation Plan.

The final voting results for each proposal are described below. For beneficial owners holding the Company’s common stock at a bank or broker institution, a “broker non-vote” occurred if the owner failed to give voting instructions, and the bank or broker was otherwise restricted from voting on the owner’s behalf.

1. **Election of Directors.** The following named persons were elected as directors of the Company to serve until the 2018 annual meeting of stockholders or until their successors have been duly elected and qualified or until their earlier death, resignation, disqualification or removal. The votes were cast as follows:

	<b>For</b>	<b>Withheld</b>	<b>Broker Non-Votes</b>
R. John Fletcher	4,479,721	247,772	1,716,322
Pascal E.R. Girin	4,479,566	247,927	1,716,322
Francis P. Grillo	4,473,331	254,162	1,716,322
Kimble L. Jenkins	4,168,057	559,436	1,716,322
Timothy T. Richards	4,478,646	248,847	1,716,322
Maria Sainz	4,479,731	247,762	1,716,322
John N. Spencer, Jr.	4,478,846	248,647	1,716,322

2. **Ratification of Independent Registered Public Accounting Firm.** The stockholders ratified the appointment of Cherry Bekaert LLP as the Company’s independent registered public accounting firm for the year ending December 31, 2017. The votes were cast as follows:

<b>For</b>	<b>Against</b>	<b>Abstain</b>
6,304,717	5,605	133,493

3. **Approval of the Second Amended and Restated 2013 Incentive Compensation Plan.** The stockholders approved the Company’s Second Amended and Restated 2013 Incentive Compensation Plan. The votes were cast as follows:

<b>For</b>	<b>Against</b>	<b>Abstain</b>	<b>Broker Non-Vote</b>
3,795,904	758,380	173,209	1,716,322

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**Item 7.01. Regulation FD Disclosure**

On October 3, 2017, MRI Interventions, Inc. posted an updated investor presentation to its website at <http://ir.stockpr.com/mriinterventions/investor-presentation>. A copy of the investor presentation is being furnished herewith as Exhibit 99.1. The Company may use the investor presentation from time to time in conversations with analysts, investors and others.

The information in Item 7.01 of this Form 8-K, as well as Exhibit 99.1 attached hereto, shall not be deemed “filed” for the purposes of Section 18 of the Exchange Act, nor shall it be deemed incorporated by reference in any filing under the Securities Act, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

The information contained in Exhibit 99.1 is summary information that is intended to be considered in the context of the Company’s filings with the Securities and Exchange Commission (“SEC”) and other public announcements that the Company may make from time to time, by press release or otherwise. The Company undertakes no duty or obligation to publicly update or revise the information contained in this investor presentation, although it may do so from time-to-time as its management believes is warranted. Any such updating may be made through the filing or other reports or documents with the SEC, through press releases or other public disclosure.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
10.1	MRI Interventions, Inc. 2013 Second Amended and Restated Incentive Compensation Plan. (filed as Appendix A to MRI Interventions, Inc.’s Definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on September 5, 2017 and incorporated herein by reference).
99.1	Investor Presentation dated October 2017.

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**SIGNATURES**

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.

Date: October 3, 2017

**MRI INTERVENTIONS, INC.**

By: /s/ Harold A. Hurwitz

Harold A. Hurwitz  
Chief Financial Officer

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