

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

**POST-EFFECTIVE AMENDMENT NO. 2  
TO  
FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

**MRI INTERVENTIONS, INC.**

*(Exact name of registrant as specified in its charter)*

**Delaware**  
*(State or other jurisdiction of  
incorporation or organization)*

**3841**  
*(Primary Standard Industrial  
Classification Code Number)*

**58-2394628**  
*(I.R.S. Employer  
Identification No.)*

**5 Musick  
Irvine, California 92618  
(949) 900-6833**  
*(Address, including zip code, and telephone number, including area code, of registrant's principal executive office)*

**Harold A. Hurwitz  
Chief Financial Officer and Secretary  
5 Musick  
Irvine, California 92618  
(949) 900-6833**  
*(Name, address, including zip code, and telephone number, including area code, of agent for service)*

Copies to:  
**Richard F. Mattern, Esq.  
Kristin C. Dunavant, Esq.  
Bass, Berry & Sims PLC  
100 Peabody Place, Suite 1300  
Memphis, Tennessee 38103  
(901) 543-5933**

**Approximate date of commencement of proposed sale to the public:** As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company

Emerging growth 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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## DEREGISTRATION OF SECURITIES

On September 30, 2016, MRI Interventions, Inc. (the “Company”) filed with the Securities and Exchange Commission (the “SEC”) a registration statement on Form S-1 (File No. 333-213896), which was originally declared effective by the SEC on October 11, 2016 and was subsequently amended by a post-effective amendment no. 1 to such registration statement filed by the Company with the SEC on July 7, 2017 and declared effective by the SEC on July 19, 2017 (collectively, as amended, the “Registration Statement”). The Registration Statement registered the resale of 1,589,580 shares of common stock of the Company, consisting of 821,000 outstanding shares of common stock and 768,580 shares of common stock issuable upon the exercise of outstanding warrants, by the selling securityholders identified in the prospectus included in the Registration Statement.

The Company has no further obligation to maintain effectiveness of the Registration Statement. In accordance with an undertaking made by the Company in the Registration Statement to remove by means of a post-effective amendment any securities that remain unsold at the termination of the offering, this Post-Effective Amendment No. 2 to the Registration Statement is being filed to terminate the effectiveness of the Registration Statement and to remove from registration all securities registered but not sold under the Registration Statement.

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**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, MRI Interventions, Inc. has duly caused this Post-Effective Amendment No. 2 to the Registration Statement to be signed on its behalf by the undersigned, hereunto duly authorized.

Date: September 6, 2017

**MRI Interventions, Inc.**

By: /s/ Harold A. Hurwitz

**Harold A. Hurwitz**

*Chief Financial Officer*

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