

## MRI Interventions, Inc.

## 22.885.855 Shares of Common Stock

This prospectus supplement relates to the prospectus dated January 26, 2015, which permits the resale of up to 15,556,398 outstanding shares of our common stock, and 7,329,457 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, 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. 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 OTC Markets and the OTC Bulletin Board under the symbol MRIC. On March 16, 2015, the last reported sale price of our common stock was \$0.828 per share.

We are an "emerging growth company" under the federal securities laws and will be 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 March 17, 2015.

On March 11, 2015, Harold A. Hurwitz entered into an employment agreement with MRI Interventions, Inc. (the "Company"). Mr. Hurwitz will join the Company initially as Vice President, Finance. As part of an orderly transition, Mr. Hurwitz will then succeed David W. Carlson as the Company's Chief Financial Officer immediately after the filing of the Company's Quarterly Report on From 10-Q for the period ending March 31, 2015. Mr. Hurwitz will also succeed Mr. Carlson as the Company's designated principal financial officer and principal accounting officer for Securities and Exchange Commission reporting purposes. The expected start date of Mr. Hurwitz's employment is March 30, 2015.

From February 2013 to January 2015, Mr. Hurwitz, age 63, served as Chief Executive Officer and President of Pro-Dex, Inc., a publicly-traded contract engineering and manufacturing company serving the medical device, factory automation and scientific research markets. Mr. Hurwitz also held the positions of Chief Financial Officer, Treasurer and Secretary of Pro-Dex from October 2010, when he joined that company, to January 2015. Between March 2010 and September 2010, Mr. Hurwitz served as an independent consultant, providing service primarily to a molecular diagnostics company. From April 2008 to February 2010, Mr. Hurwitz served as Chief Financial Officer and Vice President of Interventional Spine, Inc., a venture-backed medical device company. Prior to joining Interventional Spine, Mr. Hurwitz served as Principal Consultant with McDermott & Bull, a retained executive search firm, from December 2005 to March 2008, where he led the life science and medical technology practice. Mr. Hurwitz served as an independent consultant from December 2004 to December 2005, with his primary client during that time being Micro Therapeutics, Inc., then a publicly-traded medical device company (subsequently acquired by ev3, Inc., and now a part of Medtronic plc). He was Chief Financial Officer of Micro Therapeutics, Inc. from December 1997 to December 2004. Earlier in his career, Mr. Hurwitz was a Partner with Coopers & Lybrand L.L.P. (now a part of PricewaterhouseCoopers LLP), where he was a Business Assurance Partner, Team Leader of its Orange County Medical Device Practice and an SEC Review Partner. Mr. Hurwitz holds a B.A. in Economics from the University of California, Los Angeles. Mr. Hurwitz served as a director of Pro-Dex, Inc. from May 2013 to January 2015. There are no family relationships between Mr. Hurwitz and any of the Company's directors or executive officers. There are no relationships or related transactions between Mr. Hurwitz and the Company that would be required to be reported pursuant to Item 404(a) of Regulation S-K.

The principal terms of Mr. Hurwitz's employment agreement are summarized below.

**Term.** The term of Mr. Hurwitz's employment is expected to begin on March 30, 2015. Mr. Hurwitz's employment may be terminated by the Company or Mr. Hurwitz at any time, for any reason, with or without cause.

**Compensation.** Mr. Hurwitz's base salary is \$230,000. In addition, Mr. Hurwitz is eligible to receive an annual target incentive bonus of 30% of his annual base salary, subject to the terms and conditions established by the Company. The amount of the incentive bonus payable to Mr. Hurwitz may be more or less than the target amount, depending on whether, and to what extent, applicable performance goals have been achieved. Any incentive bonus payable for calendar year 2015 will be pro-rated based on Mr. Hurwitz's start date.

As an inducement to his employment with the Company, Mr. Hurwitz will be granted a non-qualified stock option to purchase up to 450,000 shares of the Company's common stock. In addition, upon each of the first and second anniversaries of his start date, Mr. Hurwitz will receive additional stock options to purchase 150,000 shares of the Company's common stock. The exercise price of such options will be equal to the fair market value of the Company's common stock on the date of grant. The stock options will vest and become exercisable in three equal annual installments, conditioned on Mr. Hurwitz's continued employment.

In addition, Mr. Hurwitz is: (i) eligible to participate in any incentive compensation, profit participation or extra compensation plan adopted by the Company for its executive officers; and (ii) entitled to participate in any benefit plan from time to time in effect for the Company's executives and/or employees generally, subject to the eligibility provisions of that plan.

If the Company terminates the employment of Mr. Hurwitz without cause, then Mr. Hurwitz will receive: (i) any portion of base salary and bonus compensation earned but unpaid as of the termination date, plus any unreimbursed business expenses he incurred as of the termination date; (ii) any amounts due pursuant to the terms of any award or benefit plans in which he was a participant, in accordance with the terms of such plans; and (iii) an amount equal to 25% of his base salary in effect on the termination date, which will be paid in six semi-monthly installments.

Change of Control Payments. Upon a change of control, as such term is defined in the agreement, any unvested stock options previously granted to Mr. Hurwitz will become fully vested. In addition, if the Company terminates Mr. Hurwitz's employment without cause within two months prior to or within six months following the change of control, then Mr. Hurwitz will be entitled to receive: (i) any portion of base salary and bonus compensation earned but unpaid as of the termination date, plus unreimbursed business expenses he incurred as of the termination date; (ii) any amounts due pursuant to the terms of any award or benefit plans in which he was a participant, in accordance with the terms of such plans; and (iii) a lump sum amount equal to 50% of his base salary in effect on the termination date.

Non-Competition; Non-Solicitation; Confidentiality; Assignment of Inventions. Prior to his start date, Mr. Hurwitz will also enter into the Company's standard Non-Disclosure and Proprietary Rights Agreement and Non-Competition Agreement, which agreements will impose on him customary restrictive covenants prohibiting the disclosure of the Company's confidential information, requiring Mr. Hurwitz to assign inventions discovered in the scope of his employment to the Company, prohibiting him from competing with the Company during the term of his employment and for one year following the termination of his employment (subject to applicable law), and prohibiting him from soliciting the Company's employees, consultants and contractors during the term of his employment and for two years following the termination of his employment.

**Indemnification.** The Company will also enter into its standard form of indemnification agreement with Mr. Hurwitz (the "Indemnification Agreement") as an officer of the Company. The Indemnification Agreement provides, among other things, that the Company will indemnify Mr. Hurwitz under the circumstances and to the extent provided for therein, for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by him in any action or proceeding arising out of his service as an officer of the Company, any subsidiary of the Company or any other company or enterprise to which he provides services at the Company's request.

As previously reported, the Company is consolidating key functions into its Irvine, California headquarters. In connection with that transition process, the Company is closing its Memphis, Tennessee office. The Company will not retain any of its Memphis-based employees, which includes, among others, Kimble L. Jenkins, David W. Carlson, and Oscar L. Thomas, the Company's Vice President, Business Affairs. Mr. Hurwitz, who will be based in the Company's Irvine facility, is joining the Company as part of the ongoing transition process. The Company expects the transition process to be completed in May 2015. Although Mr. Jenkins will cease to be an employee of the Company during the transition, Mr. Jenkins will continue to serve on the Company's Board of Directors. In addition, following the termination of his employment, Mr. Jenkins may serve as a consultant to the Company for some period of time.