UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

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

Date of Report: October 6, 2014 (Date of earliest event reported)

MRI INTERVENTIONS, INC.

(Exact name of registrant as specified in its charter)

Delaware 000-54575 58-2394628 (State or other jurisdiction of incorporation or (Commission File Number) (I.R.S. Employer Identification No.) organization) One Commerce Square, Suite 2550 Memphis, Tennessee 38103 (Address of principal executive offices) (Zip Code) (901) 522-9300 (Registrant's telephone number, including area code) Not Applicable (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: \square 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 2.02. Results of Operations and Financial Condition.

On October 6, 2014, MRI Interventions, Inc. (the "Company") issued a press release announcing certain information regarding the Company's results of operations for the three month and nine month periods ended September 30, 2014. A copy of that press release is furnished herewith as Exhibit 99.1.

The press release is furnished by the Company pursuant to Item 2.02 of Form 8-K and will not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor will it be deemed to be incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 7.01. Regulation FD Disclosure.

On October 6, 2014, the Company issued a press release in which it provided commentary on its results of operations for the three month period ended September 30, 2014. A copy of that press release is furnished herewith as Exhibit 99.1.

The press release is furnished by the Company pursuant to Item 7.01 of Form 8-K and will not be deemed to be "filed" for the purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities of that section, nor will it be deemed to be incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such filing.

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/ Oscar Thomas

Oscar Thomas

Vice President, Business Affairs

Date: October 6, 2014

EXHIBIT INDEX

Exhibit No. Description

99.1 Press Release of the Company dated October 6, 2014

MRI Interventions Provides Perspective on Third Quarter, as Frank Grillo Assumes Leadership

IRVINE, CA., October 6, 2014 - MRI Interventions, Inc. (OTCQB: MRIC), maker of the innovative ClearPoint[®] neuro navigation system, today welcomed Frank Grillo as its new President and CEO-elect and provided commentary on its third quarter 2014 results.

During the third quarter, surgeons continued to utilize the ClearPoint platform for a growing variety of MRI-guided neurosurgical procedures. Revenues generated during the quarter from the sale of ClearPoint disposable products are estimated at approximately \$575,000. These estimated revenues from disposable sales reflect a 22% increase over the third quarter of 2013 and represent the company's second highest quarter ever of disposable sales. However, it ends the company's record of eight consecutive quarters of sequential growth. The company estimates third quarter total revenues at approximately \$630,000. Although the company had no full system sales in the third quarter 2014 and that impacted total revenues, the company expects that ClearPoint capital product revenues will vary quarter to quarter, sometimes significantly, simply given the nature of capital product sales. Estimated product revenues totaled approximately \$2.5 million for the nine months ended September 30, 2014, representing growth of 36% over the same period last year.

"As Frank now begins his tenure at MRI Interventions, we wanted to provide our investors with an update regarding our third quarter results," stated Kimble Jenkins, MRI Interventions' CEO. "I am disappointed with our revenues for the quarter, particularly given that interest and demand for ClearPoint among physicians and patients continues to be strong. As a leader and innovator in this emerging field, it is imperative that we more effectively convert this market interest into ClearPoint sales. I believe the recent significant changes made at both the board and executive levels, in particular the addition of Frank as incoming CEO, will enable the company to achieve this objective."

MRI Interventions' Frank Grillo stated, "ClearPoint is a powerful platform technology that is poised to revolutionize minimally invasive neurosurgery. As a result of my past experiences, I understand the challenges that come with the initial commercialization of disruptive technologies like ClearPoint, and I believe I have the insight needed to meet those challenges. ClearPoint technology has the ability to address a significant and growing unmet clinical need. I believe that with proper execution, we will be successful in meeting this need and transforming the field. I am very proud to take leadership of this effort."

MRI Interventions will release its full third quarter results and host an investor conference call in the first half of November 2014.

About MRI Interventions, Inc.

Building on the imaging power of MRI, MRI Interventions is creating innovative platforms for performing the next generation of minimally invasive surgical procedures in the brain and heart. The company's ClearPoint® system utilizes a hospital's existing diagnostic or intraoperative MRI scanner to enable a range of minimally invasive procedures in the brain. In partnership with Siemens Healthcare, MRI Interventions is developing the ClearTrace® system to enable MRI-guided catheter ablations to treat cardiac arrhythmias, including atrial fibrillation. For more information, please visit www.mriinterventions.com.

Forward-Looking Statements

Certain matters in this press release may constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements can be identified by the fact that they do not relate strictly to historical or current facts. Forward-looking statements by their nature address matters that, to different degrees, are uncertain and involve risk. Uncertainties and risks may cause MRI Interventions' actual results and the timing of events to differ materially from those expressed in or implied by forward-looking statements. Particular uncertainties and risks include: demand and market acceptance of our products; our ability to successfully expand, and achieve full productivity from, our sales, clinical support and marketing capabilities; the sufficiency of our cash resources to maintain planned commercialization efforts; the impact of competitive products and pricing; and the impact of the commercial and credit environment on us and our customers and suppliers. More detailed information on these and additional factors that could affect MRI Interventions' actual results and the timing of events are described in our filings with the Securities and Exchange Commission, including, without limitation, our Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 11, 2014. Except as required by law, MRI Interventions undertakes no obligation to publicly update or revise any forward-looking statements contained in this press release to reflect any change in our expectations or any change in events, conditions or circumstances on which any such statements are based.

Contact Information: MRI Interventions, Inc. David Carlson, CFO, 901-522-9300