

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q/A
Amendment No. 1

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended March 31, 2012

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number: 000-54575

MRI Interventions, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation or Organization)

58-2394628
(IRS Employer
Identification Number)

One Commerce Square, Suite 2550
Memphis, Tennessee
(Address of Principal Executive Offices)

38103
(Zip Code)

(901) 522-9300
(Registrant's Telephone Number, Including Area Code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files.)

Yes No

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

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

As of May 10, 2012, there were 40,447,717 shares of common stock outstanding.

EXPLANATORY NOTE

MRI Interventions, Inc. (the "Company") is filing this Amendment No. 1 to its Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2012, originally filed with the Securities and Exchange Commission on May 11, 2012, for the purpose of furnishing Exhibit 101 to the Form 10-Q, which contains the XBRL (eXtensible Business Reporting Language) Interactive Data File for the financial statements and notes included in Part I, Item 1 of the Form 10-Q. Pursuant to Rule 405(a)(2)(ii) of Regulation S-T, the Company is permitted to furnish Exhibit 101 by amendment to the Form 10-Q within 30 days of the original filing date of the Form 10-Q.

No other changes have been made to the Form 10-Q and the Form 10-Q has not been updated to reflect events occurring subsequent to the original filing date.

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 thereunto duly authorized.

Date: June 7, 2012

MRI INTERVENTIONS, INC.

By: /s/ Kimble L. Jenkins
Kimble L. Jenkins
Chief Executive Officer
(Principal Executive Officer)

By: /s/ David W. Carlson
David W. Carlson
Chief Financial Officer
(Principal Financial Officer and Chief Accounting Officer)

EXHIBIT INDEX

Exhibit Number	Description
3.1*	Amended and Restated Certificate of Incorporation
3.2*	Amended and Restated Bylaws
3.3**	Third Amended and Restated Investor Rights' Agreement dated September 20, 2006 (incorporated by reference to Exhibit 3.5 of the Company's registration statement on Form 10 filed with the Securities and Exchange Commission)
3.4**	Form of Subscription Agreement for 10% Secured Convertible Promissory Note Due 2014 (incorporated by reference to Exhibit 3.7 of the Company's registration statement on Form 10 filed with the Securities and Exchange Commission)
4.1	Reference is made to Exhibits 3.1, 3.2, 3.3 and 3.4
4.2**	Specimen of Common Stock Certificate
4.3**	Form of 10% Senior Unsecured Convertible Note Due 2012
4.4**	Form of Junior Secured Promissory Note Due 2020, as amended by that certain Omnibus Amendment dated as of April 5, 2011, as further amended by that certain Second Omnibus Amendment dated as of October 14, 2011
4.5**	10% Subordinated Secured Convertible Note Due 2016 issued to Brainlab AG, as amended
4.6**	Form of Unsecured Convertible Promissory Note Due 2013, as amended
4.7**	Form of 10% Secured Convertible Promissory Note Due 2014
4.8**	Form of Amendment to 10% Senior Unsecured Convertible Note Due 2012
10.1**+	1998 Stock Option Plan
10.2**+	2007 Stock Incentive Plan
10.3**+	Amended and Restated Key Personnel Incentive Program
10.4**+	2010 Incentive Compensation Plan
10.5**+	2010 Non-Qualified Stock Option Plan
10.6**	Junior Security Agreement by and between MRI Interventions, Inc. and Landmark Community Bank, in its capacity as collateral agent, dated as of November 5, 2010, as amended by that certain First Amendment dated April 5, 2011, and as further amended by that certain Second Amendment dated October 14, 2011
10.7**	Security Agreement by and between MRI Interventions, Inc. and Landmark Community Bank, in its capacity as collateral agent, dated as of October 14, 2011
10.8**+	Form of Indemnification Agreement
10.9†**	License Agreement by and between SurgiVision, Inc. and The Johns Hopkins University entered into on or around June 20, 1998, as amended by that certain Amendment to License Agreement dated as of January 15, 2000, and as further amended by that certain Addendum to License Agreement entered into on or around December 7, 2004

- 10.10†** License Agreement by and between SurgiVision, Inc. and The Johns Hopkins University entered into on or around December 7, 2006
- 10.11†** Technology License Agreement dated as of December 30, 2005 by and between SurgiVision, Inc. and Boston Scientific Neuromodulation Corporation (formerly known as Advanced Bionics Corporation), as amended by that certain Omnibus Amendment dated June 30, 2007, as further amended by that certain Omnibus Amendment #2 dated March 19, 2008
- 10.12†** System and Lead Development and Transfer Agreement dated as of December 30, 2005 by and between SurgiVision, Inc. and Boston Scientific Neuromodulation Corporation (formerly known as Advanced Bionics Corporation), as amended by that certain Amendment No. 1 dated May 31, 2006, as further amended by that certain Omnibus Amendment dated June 30, 2007, as further amended by that certain Omnibus Amendment #2 dated March 19, 2008
- 10.13†** Technology License Agreement dated as of March 19, 2008 by and between SurgiVision, Inc. and Cardiac Pacemakers, Inc.
- 10.14†** Development Agreement dated as of March 19, 2008 by and between SurgiVision, Inc. and Cardiac Pacemakers, Inc.
- 10.15†** Cooperation and Development Agreement, dated as of May 4, 2009, by and between SurgiVision, Inc. and Siemens Aktiengesellschaft, Healthcare Sector
- 10.16**+ Consulting Agreement with Dr. Paul Bottomley
- 10.17†** Co-Development and Distribution Agreement dated as of April 5, 2011 by and between SurgiVision, Inc. and Brainlab AG, as amended by that certain First Amendment dated as of July 18, 2011
- 10.18†** Master Security Agreement dated April 5, 2011 by and between SurgiVision, Inc. and Brainlab AG
- 10.19†** Patent License Agreement – Nonexclusive entered into on or around April 27, 2009 by and between SurgiVision, Inc. and National Institutes of Health
- 10.20†** Master Services and Licensing Agreement dated as of July 20, 2007 by and between SurgiVision, Inc. and Cedara Software Corp., as amended by that certain First Amendment dated January 18, 2011
- 10.21†** Exclusive License Agreement entered into on or around June 30, 2008 by and between SurgiVision, Inc. and The Johns Hopkins University
- 10.22†** Exclusive License Agreement entered into on or around June 30, 2008 by and between SurgiVision, Inc. and The Johns Hopkins University
- 10.23†** Exclusive License Agreement entered into on or around June 30, 2008 by and between SurgiVision, Inc. and The Johns Hopkins University
- 10.24** Loan Agreement dated as of October 16, 2009 by and between SurgiVision, Inc. and Boston Scientific Corporation
- 10.25†** Patent Security Agreement dated as of October 16, 2009 by and between SurgiVision, Inc. and Boston Scientific Corporation
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- 10.26†** Research Agreement by and between SurgiVision, Inc. and The University of Utah entered into on or around July 2, 2007, as amended by that certain First Amendment to the Research Agreement entered into on or around January 8, 2008, as further amended by that certain Second Amendment to the Research Agreement dated April 24, 2009, as further amended by that certain Third Amendment to the Research Agreement dated May 1, 2009, as further amended by that certain Fourth Amendment to the Research Agreement entered into on or around February 25, 2010, as further amended by that certain Fifth Amendment to the Research Agreement dated December 31, 2010, and as further amended by that certain Sixth Amendment to the Research Agreement dated November 28, 2011
- 10.27* Lease Agreement, dated as of April 21, 2008, by and between Shaw Investment Company, LLC and Surgi-Vision, Inc., as amended by that certain Amendment to Lease dated January 20, 2011, as further amended by that certain Amendment to Lease dated March 26, 2012
- 10.29**+ SurgiVision, Inc. Cardiac EP Business Participation Plan
- 10.30**+ Cardiac EP Business Participation Plan Award Agreement, dated June 3, 2010, by and between SurgiVision, Inc. and Nassir F. Marrouche
- 10.31**+ Amended and Restated Key Personnel Incentive Award Agreement, dated June 2, 2010, by and between SurgiVision, Inc. and Paul A. Bottomley
- 10.32**+ Key Personnel Incentive Award Agreement, dated June 2, 2010, by and between SurgiVision, Inc. and Paul A. Bottomley
- 10.33**+ Amended and Restated Key Personnel Incentive Award Agreement, dated June 2, 2010, by and between SurgiVision, Inc. and Parag V. Karmarkar
- 10.34**+ MRI Interventions, Inc. 2012 Incentive Compensation Plan
- 10.35**+ MRI Interventions, Inc. 2012 Incentive Compensation Plan Form of Incentive Stock Option Agreement
- 10.36**+ MRI Interventions, Inc. 2012 Incentive Compensation Plan Form of Non-Qualified Stock Option Agreement
- 10.37†** Amendment No. 1 to Loan Agreement Secured Convertible Promissory Notes and Patent Security Agreement effective February 2, 2012, between MRI Interventions, Inc. and Boston Scientific Corporation
- 10.38†** Omnibus Amendment No. 3 to Technology License Agreement and System and Lead Development and Transfer Agreement effective February 2, 2012, between MRI Interventions, Inc. and Boston Scientific Neuromodulation Corporation
- 31.1* Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) Under the Securities Exchange Act of 1934
- 31.2* Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) Under the Securities Exchange Act of 1934
- 32* Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Rule 13a-14(b) Under the Securities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code.
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101.INS# XBRL Instance

101.SCH# XBRL Taxonomy Extension Schema

101.CAL# XBRL Taxonomy Extension Calculation

101.DEF# XBRL Taxonomy Extension Definition

101.LAB# XBRL Taxonomy Extension Labels

101.PRE# XBRL Taxonomy Extension Presentation

* Previously filed or furnished as an exhibit to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2012.

** Incorporated by reference to the Company's registration statement on Form 10 filed with the Securities and Exchange Commission.

+ Indicates management contract or compensatory plan.

Furnished with this Amendment No. 1 to Form 10-Q. Pursuant to Rule 406T of Regulation S-T adopted by the Securities and Exchange Commission, these interactive data files are deemed not filed or part of a registration statement or prospectus for purposes of Section 11 or 12 of the Securities Act of 1933, are deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, and otherwise are not subject to liability under these sections.

† Confidential treatment requested under Rule 24b-2 under the Securities Exchange Act of 1934. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been filed separately with the Securities and Exchange Commission pursuant to the confidential treatment request.

