

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

SCHEDULE 13D

Under the Securities Exchange Act of 1934
(Amendment No. _____)*

MRI Interventions, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

55347P100

(CUSIP Number)

c/o Oscar Thomas
MRI Interventions, Inc.
One Commerce Square, Suite 2550
Memphis, Tennessee 38103

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

May 9, 2012

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. []

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7 for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

(Continued on following pages)

Page 1 of 6 Pages

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (*entities only*).

Andrew K. Rooke

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)
(b)

0

3. SEC Use Only

4. Source of Funds (See Instructions)

OO*

5. Check if Disclosure or Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization

United States

Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power	<u>6,321,141**</u>
	8.	Shared Voting Power	_____
	9.	Sole Dispositive Power	<u>6,321,141**</u>
	10.	Shared Dispositive Power	_____

11. Aggregate Amount Beneficially Owned by Each Reporting Person

6,321,141**

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)

14.9%***

14. Type of Reporting Person (See Instructions)

IN

* See Item 3.

**See Item 5.

*** Based on 40,447,717 shares of common stock outstanding as of May 10, 2012, as reported by MRI Interventions, Inc. in its Quarterly Report on Form 10-Q for its quarter ended March 31, 2012, plus 1,925,000 shares subject to warrants that are immediately exercisable.

Item 1. Security and Issuer

This statement relates to shares of common stock of MRI Interventions, Inc. (the "Issuer"). The Issuer's principal executive offices are located at One Commerce Square, Suite 2550, Memphis, Tennessee 38103.

Item 2. Identity and Background

- (a) Name: Andrew K. Rooke (the "Reporting Person")
- (b) Residence or business address: c/o MRI Interventions, Inc., One Commerce Square, Suite 2550, Memphis, Tennessee 38103.
- (c) Principal Business: The Reporting Person owns and manages Rooke Fiduciary Management, Inc., a private trust company.

Address of Principal Business/Principal Office: 199 E Pearl, Suite 101, PO Box 2554, Jackson, Wyoming 83001.

- (d) Criminal Convictions: None
- (e) Civil Proceedings: None
- (f) Citizenship: United States

Item 3. Source and Amount of Funds or Other Consideration

The 6,321,141 shares of common stock of the Issuer beneficially owned by the Reporting Person includes (i) 500,000 shares owned by Payne Partners, LLC, which funded its purchases of the Issuer's common stock with working capital, (ii) 260,102 shares owned by Withington Foundation, which funded its purchases of the Issuer's common stock with working capital, (iii) 1,577,832 shares owned by 12 trusts established for the benefit of Mr. Rooke and his family members, each of which funded their purchases of the Issuer's common stock with trust funds, (iv) 2,058,207 shares issued upon conversion of convertible notes in the aggregate principal amount of \$1,301,000 held by Rooke Fiduciary Management, which funded its purchases of the Issuer's convertible notes with working capital, (v) 925,000 shares of the Issuer's common stock issuable upon the exercise of warrants held by Rooke Fiduciary Management, which warrants were issued by the Issuer to Rooke Fiduciary Management, together with convertible notes in the aggregate principal amount of \$925,000, and are immediately exercisable and have an exercise price of \$0.01 per share, and (vi) 1,000,000 shares of the Issuer's common stock issuable upon the exercise of a warrant granted to the Reporting Person in recognition of his contributions to the Issuer, which warrant is immediately exercisable and has an exercise price of \$1.00 per share.

Item 4. Purpose of Transaction

The Reporting Person, who is a member of the Board of Directors of the Issuer, has acquired shares of the Issuer's common stock for investment purposes. The Reporting Person from time to time intends to review his investment in the Issuer on the basis of various factors, including the business of the Issuer, financial condition, results of operations and prospects, general economic and industry conditions, the securities markets in general and those for the stock of the Issuer in particular, as well as other developments and other investment opportunities. Based upon such review, the Reporting Person will take such actions in the future as the Reporting Person may deem appropriate in light of the circumstances existing, from time to time, which may include further acquisitions of shares of the Issuer's common stock or disposal of some or all of the shares of common stock currently owned by the Reporting Person or otherwise acquired by the Reporting Person, as the case may be.

In addition, the Reporting Person may engage in communications with one or more stockholders, officers or directors of the Issuer, including discussions regarding potential changes in the operations of the Issuer and strategic direction that, if effected, could result in, among other things: (a) the acquisition by any person of additional securities of the Issuer; (b) an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries; (c) a sale or transfer of a material amount of assets of the Issuer or of any of its subsidiaries; (d) any change in the present board of directors or management of the Issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board; (e) any material change in the present capitalization or dividend policy of the Issuer; (f) any other material change in the Issuer's business or corporate structure; (g) changes in the Issuer's certificate of incorporation, bylaws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Issuer by any other person; (h) causing a class of securities of the Issuer to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association; (i) a class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Securities Exchange Act of 1934; or (j) any similar action to those enumerated above. Except as expressly set forth in this Item 4, the Reporting Person currently has no additional plans or proposals that relate to or would result in any of the actions required to be reported herein. The Reporting Person reserves the right, based on all relevant factors and subject to applicable law, at any time and from time to time, to review or reconsider his position, change his purpose, take other actions (including actions that could involve one or more of the types of transactions or have one or more of the results described in paragraphs (a) through (j) of Item 4 of this Schedule 13D) or formulate and implement plans or proposals with respect to any of the foregoing.

Item 5. Interest in Securities of the Issuer

(a) The Reporting Person beneficially owns 6,321,141 shares of the Issuer's common stock, which constitutes 14.9% of the Issuer's common stock, based on 40,447,717 shares of common stock outstanding as of May 10, 2012, as reported by the Issuer in its Quarterly Report on Form 10-Q for its quarter ended March 31, 2012, plus 1,925,000 shares subject to warrants that are immediately exercisable.

(b) The 6,321,141 shares of common stock of the Issuer beneficially owned by the Reporting Person includes 500,000 shares owned by Payne Partners, LLC, 260,102 shares owned by Withington Foundation, 2,058,207 shares owned by Rooke Fiduciary Management, and 925,000 shares that Rooke Fiduciary Management has the right to acquire through the exercise of warrants. Mr. Rooke has voting and investment power over the shares owned by Payne Partners, LLC, Withington Foundation and Rooke Fiduciary Management, as well as any shares acquired by Rooke Fiduciary Management through the exercise of warrants. The aggregate amount of shares also includes 1,577,832 shares owned by 12 trusts established for the benefit of Mr. Rooke and his family members. Mr. Rooke is the trustee of each of those trusts and he has voting and investment power of each trust's shares. Finally, the aggregate amount of shares includes 1,000,000 shares that the Reporting Person has the right to acquire through the exercise of warrants.

(c) Transactions in the Issuer's securities in the last 60 days:

- On April 13, 2012, the Issuer granted the Reporting Person an option to purchase 45,000 shares of the Issuer's common stock at an exercise price of \$1 per share. The shares subject to this option vest ratably on the first, second and third anniversaries of the grant date, April 13, 2013, April 13, 2014 and April 13, 2015. Because this option is not exercisable within 60 days, the shares subject to this stock option were not included in calculating the Reporting Person's beneficial ownership of the Issuer's common stock on this Schedule 13D.

- On May 9, 2012, the Issuer granted the Reporting Person a warrant to purchase 1,000,000 shares of the Issuer's common stock at an exercise price of \$1 per share, which warrant is immediately exercisable by the Reporting Person. Because the warrant is immediately exercisable, the shares issuable upon exercise of the warrant were included in calculating the Reporting Person's beneficial ownership and percentage ownership of the Issuer's common stock on this Schedule 13D.

(d) N/A

(e) N/A

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to the Securities of the Issuer

None.

Item 7. Materials to be Filed as Exhibits

Exhibit A. Power of Attorney

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

May 18, 2012

Date

/s/Andrew K. Rooke*

Signature

Andrew K. Rooke

Name/Title

* By Attorney-in-Fact, pursuant to Power of Attorney attached to this Schedule 13D as Exhibit A.

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative (other than an executive officer or general partner of the filing person), evidence of the representative's authority to sign on behalf of such person shall be filed with the statement: provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

**Attention: Intentional misstatements or omissions of fact constitute
Federal criminal violations (See 18 U.S.C. 1001)**

POWER OF ATTORNEY

Know all by these presents, that the undersigned hereby constitutes and appoints each of Oscar Thomas, Robert J. DelPriore, Richard Mattern and Lori Metrock, signing singly, the undersigned's true and lawful attorney-in-fact to:

1. execute for and on behalf of the undersigned a Schedule 13D and any and all amendments thereto with respect to the undersigned's holdings of and transactions in securities issued by MRI Interventions, Inc., in accordance with Section 13(d) of the Securities Exchange Act of 1934 and the rules and regulations promulgated thereunder;
2. do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Schedule 13D, complete and execute any amendment or amendments thereto and timely file such schedule and agreement with the United States Securities and Exchange Commission and any stock exchange or similar authority; and
3. take any and all other actions of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming any of the undersigned's responsibilities to comply with any provisions of the Securities Exchange Act of 1934.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Schedule 13Ds with respect to the undersigned's holdings of and transactions in securities issued by MRI Interventions, Inc., unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed on May 18, 2012.

/s/Andrew K. Rooke
Signature

Andrew K. Rooke
Print name

