



September 19, 2012

VIA EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
100 F. Street, N.E.
Washington, D.C. 20549
Attn: Russell Mancuso, Branch Chief

RE: MRI Interventions, Inc.
Registration Statement on Form S-1
File No. 333-183279
REQUEST FOR ACCELERATION OF EFFECTIVENESS

Dear Mr. Mancuso:

In accordance with Rule 461 under the Securities Act of 1933, as amended (the "Securities Act"), MRI Interventions, Inc. (the "Company") hereby requests acceleration of the effectiveness of the Company's Registration Statement on Form S-1, file number 333-183279, for Friday, September 21, 2012, at 4:00 p.m. Eastern Time, or as soon as practicable thereafter.

This letter will confirm that the Company acknowledges that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the Company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Very truly yours,

MRI Interventions, Inc.

By: /s/ Oscar Thomas
Oscar Thomas
Vice President, Business Affairs
