MRIs for patients with implanted cardiac devices

The Problem
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- These patients who are denied access to MRI due to safety concerns often must turn to sub-optimal imaging, or invasive procedures to obtain the answers that an MRI would provide.

Aim/Goal
A close collaboration between Cardiology and Radiology worked to create a policy and procedure that allowed BIDMC to become the first institution in New England to offer safety MRIs to these patients with implanted cardiac devices.

The Team
- Bhadelia, Rafeeqeque, MD, Director, Neuroradiology
- Kramer, Daniel, MD, Electrophysiology Cardiology
- Buxton, Alfred, MD, Director, Clinical Electrophysiology Laboratory
- Hochman, Mary, MD, Chief, Musculoskeletal Imaging
- Cabral-Goncalves, Ines, Clinical Manager, MRI
- Rojas, Rafael, MD, Neuroradiology
- Dunay, William, Clinical Supervisor, MRI
- Stormann, Jeremy, Clinical Educator, MRI
- Hallet, Donna, Director, Radiology
- Smith, Marty, MD, Abdominal Imaging
- Mortele, Koenraad, MD, Director, MRI imaging
- Zheng, ShuangQi, Clinical Supervisor, MRI
- Josephson, Mark, MD, Chief, Cardiology
- Zimetbaum, Peter, MD, Electrophysiology Cardiology

The Interventions
- Day of study, a team from EP evaluates the patient's device and performs any programming needed. EP physicians monitor patient vitals while MRI staff perform the study. The patient is evaluated again after the MRI and sent on their way.

The Results, Progress to Date/Patient Impact
We began scanning in June 2014. We’ve scanned 12 patients during the first 8 months. There has been a profound impact on these patients. Dr. Kramer has reported patients bursting into tears when told in clinic that we can offer them a MRI.

“I am excited to pioneer with BIDMC and want to emphasize of appreciative I am. I feel that BIDMC truly embodies the ‘Human first’ mantra.”

“We live in NH and were happy to hear that we could come down to Boston for this study, instead of having to plan a trip all the way down to Baltimore.”

“I receive all my care another facility. I was disappointed that they could not offer me a MRI. Your program saved me from a painful CT Myelogram that may not have even answered my surgeon’s question.”

Lessons Learned
The greatest surprise has been the response of our patients. They have been told for years that they can never have an MRI without first removing the pacemaker. They often have had to undergo alternative diagnostic studies, which can be either invasive, or have radiation consequences if they are being monitored routinely with CTs.

Next Steps/What Should Happen Next
Our goal in for the upcoming year is to increase our efficiency in how we are providing this service.
- Decrease the wait time during the approval and scheduling process.
- Decrease magnet idle time, and EP’s time commitment per study.

For more information, contact:
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