RC423

MR Safety

Tuesday, Nov. 29 4:30PM - 6:00PM Room: S402AB

MR PH SQ

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credits: 1.50

FDA Discussions may include off-label uses.

Matthew A. Bernstein, PhD, Rochester, MN (*Director*) Research collaboration, General Electric Company;
Yunhong Shu, PhD, Rochester, MN (*Director*) Nothing to Disclose

LEARNING OBJECTIVES

1) List several MR Safety incidents and describe their root causes. 2) List a variety of commonly implanted Neurostimulators and MR Conditional Pacemakers. 3) Identify potential risks associated with scanning patients implanted with these devices using MRI in the clinical environment. 4) Describe special MR Safety hazards present in the MR interventional environment, and identify countermeasures to reduce the associated risks. 5) Describe MR Safety guidelines and recommendations to prevent accidents and injuries.

Handout:Yunhong Shu

http://abstract.rsna.org/uploads/2016/16001093/MR safety - neurostimulator -handouts.docx

Sub-Events

RC423A Case Review of Real MR Safety Incidents

Armen Kocharian, PhD, Houston, TX, (akocharian@houstonmethodist.org) (*Presenter*) Research collaboration, General Electric Company

LEARNING OBJECTIVES

1) Identify main safety risk factors from incident reviews at MR Imaging sites. 2) Assess and address the MRI safety potential risks. 3) Implement preventive measures in clinical practice for improved standard of care.

Active Handout:Armen Kocharian

http://abstract.rsna.org/uploads/2016/16001094/RC423A Case Review of Real MR Safety Incidents.pdf

RC423B MRI Safety of Deep Brain and Other Simulators

Yunhong Shu, PhD, Rochester, MN (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) List a variety of commonly implanted neurostimulators. 2) Understand the importance of MRI as a diagnostic imaging tool for patient with implanted neurostimulator. 3) Identify the potential risks associated with scanning patient with implanted neurostimulator using MRI. 4) Describe MR safety guidelines and recommendations to prevent accidents and injuries.

ABSTRACT

A neurostimulator is a surgically placed programmable device. It delivers mild electrical signals to the targeted area through thin wires. The purpose is usually for pain relief or improving patient's ability to perform daily activities. There are a variety of commonly used neurostimulators include deep brain stimulator, spinal cord stimulator, vagus nerve stimulator and sacral nerve stimulator. MRI is clinically important for post-implantation evaluation. It is very likely that a patient will require an MRI scan after the neurostimulator is implanted. The risks of performing MRI on patients with neurostimulators are related to static magnetic field, gradient magnetic field and the RF field. The talk will provide an imaging physics overview on the potential risks and make recommendations for MR imaging safety procedure.

Handout:Yunhong Shu

http://abstract.rsna.org/uploads/2016/16001095/MR safety - neurostimulator -handouts.docx

RC423C MRI Conditional Pacemakers, What to Do?

Anshuman Panda, PhD, Scottsdale, AZ (*Presenter*) Nothing to Disclose

Active Handout:Anshuman Panda

http://abstract.rsna.org/uploads/2016/16001096/RC423C Panda RSNA 2016 MR Conditional Pacemakers.pdf

RC423D MRI Safety in the MR-Guided Interventional Environment

Krzysztof Gorny, PhD, Rochester, MN (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

Presentation will include overview of interventional MRI practice within context of generally accepted principles of MRI safety. Description of the practice will be provided including example protocol for safety testing of previously unlabeled equipment considered for potential use inside Zone 4.

ABSTRACT

Handout:Krzysztof Gorny

http://abstract.rsna.org/uploads/2016/16001097/Safety in the MRI hand out.pdf