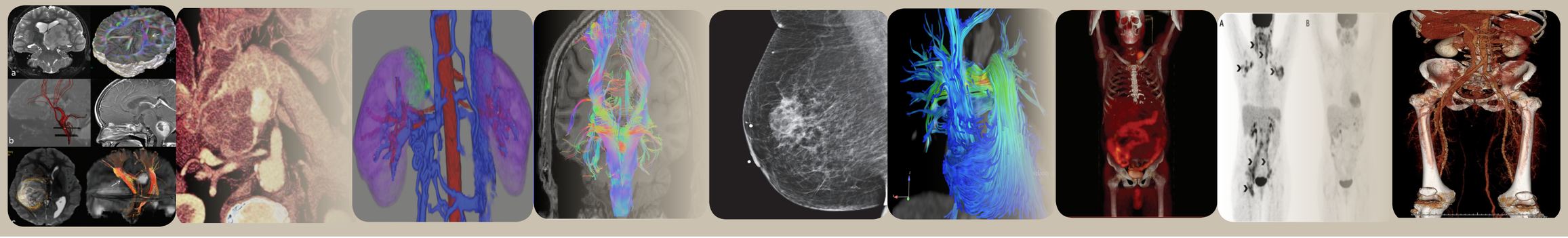
STANFORD SCHOOL OF MEDICINE

Department of Radiology

CME RADIOLOGY GRAND ROUNDS



"MRI Near Metallic Orthopaedic Devices"

Brian Hargreaves, PhD

Associate Professor of Radiology and (by courtesy)
Bioengineering and Electrical Engineering
Stanford University

Tuesday, April 1, 2014
7:30 AM - 8:30 AM
Li Ka Shing Center - Room LK130

ABSTRACT While millions of patients are treated successfully with orthopaedic implants such as spinal fixations and joint replacements, as many as a quarter of patients will experience subsequent complications. MRI is ideal for assessment of soft tissue, but fails near metals due to severe image artifacts. This presentation will review the mechanisms of signal loss, pile-up and distortion artifacts and offer various existing and novel approaches to improve images. These approaches have shown promise in a clinical setting for diagnosis of complications such as spinal cord impingement, osteolysis, wear-induced synovitis and recurrent osteosarcoma.

Global Learning Objectives

- Critically analyze research, guidelines and appropriate use criteria to develop best-practice diagnosis and treatment strategies
- Evaluate latest innovations in imaging to assess safety and effectiveness

Session Learning Objectives

- Identify the causes of metal artifacts in MR images
- Alter MRI protocols to reduce metal artifacts in images
- Implement protocols using new MRI sequences that are designed to reduce image artifacts

Course Directors: Sanjiv Sam Gambhir, MD, PhD
Andrei Iagaru, MD

Accreditation

The Stanford University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation

The Stanford University School of Medicine designates this live activity for a maximum of 1.00 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Cultural and Linguistic Competency

California Assembly Bill 1195 requires continuing medical education activities with patient care components to include curriculum in the subjects of cultural and linguistic competency. The planners and speakers of this CME activity have been encouraged to address cultural issues relevant to their topic area. The Stanford University School of Medicine Multicultural Health Portal also contains many useful cultural and linguistic competency tools including culture guides, language access information and pertinent state and federal laws. You are encouraged to visit the portal: http://lane.stanford.edu/portals/cultural.html