Resident Fellow
Participants
Thaddeus A. Wilson, PhD, Memphis, TN (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) Provide an overview of MRI/Ultrasound technology, recent advances and trends for the future. 2) Make the session attractive to both the clinician, clinician educator, medical physicist and other associated radiological fields. 3) First session hour will be spent reviewing the concepts of the modality. 4) Second session hour will be spent discussing artifacts of the modality.

Sub-Events

SPPH01A  Update in Ultrasound

Participants
Kai E. Thomenius, PhD, Niskayuna, NY (Presenter) Stockholder, General Electric Company; Research Consultant, Endra, Inc

LEARNING OBJECTIVES
View learning objectives on main course title.

SPPH01B  Primer and Clinical Significance of Artifacts in Ultrasound

Participants
David M. Paushter, MD, Chicago, IL, (dpaushter@uchicago.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Understand the basic principles of ultrasound imaging and Doppler. 2) Apply these principles to identify the causative factors producing common artifacts in ultrasound. 3) Recognize artifacts encountered in clinical practice. 4) Identify methods to prevent or minimize artifacts in clinical practice.

ABSTRACT
Medical ultrasound including imaging and Doppler requires an understanding of basic principles of sound formation, propagation and display. Artifacts are common in ultrasound, and it is critical to: a) avoid production of artifacts when possible, b) recognize artifacts during imaging and c) control or eliminate artifacts that may interfere with image interpretation. Topics to be covered in this session will focus on equipment malfunction or design, operator error, violation of assumptions and physical principles as causative factors in artifact production. Included will be review and presentation of select examples of artifacts related to ultrasound basic principles, including: Ultrasound imaging Resolution, beam width, refraction, reverberation, comet tail, ringdown, multipath, side and grating lobes, speed error, range ambiguity and mirror image produced in ultrasound imaging. Doppler/Duplex Sonography Gain, scale, Doppler angle, aliasing/range ambiguity, mirroring, wall filter, color assignment, color bleeding, twinkle artifact, tissue vibratio and mirroring.

URL
Active Handout: David M. Paushter
What’s New from the Radiology Residency Review Committee

Sunday, Nov. 29 2:00PM - 3:30PM Location: S403B

AMA PRA Category 1 Credits™: 1.50
ARRT Category A+ Credit: 0

Participants
James C. Anderson, MD, Portland, OR (Presenter) Nothing to Disclose
Felicia Davis, Chicago, IL (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) To provide updates from the Review Committee for Diagnostic Radiology. 2) To provide updates from ACGME. 3) To provide updates on ACGME's Next Accreditation System.
RC105

**Difficult Diagnoses in Neuroradiology**

Sunday, Nov. 29 2:00PM - 3:30PM Location: S406B

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

**FDA** Discussions may include off-label uses.

Participants
Christophr P. Hess, MD, PhD, Mill Valley, CA, (christopher.hess@ucsf.edu) (Moderator) Research Grant, General Electric Company; Research Grant, Quest Diagnostics Incorporated; Research Grant, Cerebrotech Medical Systems, Inc;
Vincent P. Mathews, MD, Milwaukee, WI (Moderator) Nothing to Disclose

**Sub-Events**

**RC105A  Pituitary Lesions: Not as Easy as They Seem**

Participants
Michael N. Brant-Zawadzki, MD, Newport Beach, CA, (mbrant@hoag.org ) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Appreciate the prevalence of "incidental" lesions within the pituitary gland, and their origin. 2) Differentiate intrinsic pituitary gland lesions from non-pituitary lesions simulating intrinsic disease. 3) Utilize common MRI parameter choices to help specify pathology in the pituitary region.

**ABSTRACT**

The pituitary gland's size, important function, and detailed surrounding anatomy of disparate structures makes it an "acid test" for the accuracy and specificity of any imaging modality. The multiplicity of intrinsic lesions, as well as the plethora of surrounding structural histology produces a wide bandwidth of abnormalities in the pituitary fossa and its environs. A systematic approach to analyzing lesions of the pituitary region will be presented, common pitfalls explored, and atypical examples utilized to review the approach to a targeted differential diagnosis for lesions of this region.

**RC105B  Is it Vasculitis?**

Participants
Daniel M. Mandell, MD, Toronto, ON, (danny.mandell@uhn.ca) (Presenter) Research funded, General Electric Company;

**LEARNING OBJECTIVES**

1) Appreciate the spectrum of imaging findings in CNS vasculitis. 2) Appreciate findings that help differentiate among related conditions. 3) Understand the role of imaging relative to other tests (CSF sampling, biopsy etc...).

**ABSTRACT**

Abstract: Central nervous system (CNS) vasculitis is relatively uncommon. However, multifocal abnormalities on CT/MRI and/or intracranial arterial narrowing on CTA/MRA often leads to consideration of this diagnosis. I will discuss the spectrum of imaging findings in CNS vasculitis, including brain parenchymal and meningeal findings, angiographic findings, and the emerging role of vessel wall MRI. I will then focus on the differential diagnosis, and findings that can help differentiate among conditions that mimic vasculitis. Finally, we will consider how imaging fits into the broader clinical work-up which may include cerebrospinal fluid sampling and biopsy.

**RC105C  Spontaneous Intracranial Hypotension**

Participants
William P. Dillon, MD, San Francisco, CA, (william.dillon@ucsf.edu ) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Understand the clinical presentation, variations thereof, and MR and CT featurs of SIH. 2) Understand the approach to treatment of SIH with autologous blood patch. 3) Understand the potential complications of SIH, and blood patch.

**ABSTRACT**

Spontaneous intracranial hypotension (SIH) is a syndrome of low cerebrospinal fluid volume and or pressure that typically results from either a spinal dural defect at a perineural cyst or from an osteophyte/ disc penetrating through the ventral dura. Postural headache is the most common symptom. Other reported symptoms include nausea, vertigo, cranial nerve palsies, visual impairment, quadriplegia, and coma. Because of the nonspecific nature of symptoms, the diagnosis may be missed or mistaken for other disease entities. These patients may be surgically treated for subdural fluid collections or 'Chiari 1 malformations' instead of the underlying spinal cause of intracranial hypotension. Patients with connective tissue disorders - such as Marfan syndrome, Ehlers-Danlos syndrome, and autosomal dominant polycystic kidney disease - are at increased risk of SIH. The most appropriate therapy for SIH is an epidural blood patch, which ideally should be directed to the location of the leak, if it is known. If the location of the leak is unknown, then the epidural blood patch can be placed in a nonselective fashion. Described imaging findings of SIH include diffuse pachymeningeal enhancement, subdural fluid collections, cerebellar tonsillar herniation, distention of the dural venous sinuses, enlargement of the pituitary gland and downsloping of the floor of the third ventricle. Ct guided epidural blood patch following detection of the CSF fistula is the most efficient and appropriate first line of therapy. The diagnostic findings, complications of
untreated SIH, and the approach to the patient with suspected CSF fistula of the spine will be discussed.
Imaging the Nasopharynx

Participants
Nancy J. Fischbein, MD, Stanford, CA (fischbein@stanford.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Review the normal anatomy of the nasopharynx. 2) Illustrate the appearance and patterns of spread of nasopharyngeal carcinoma. 3) Describe additional pathologies of the nasopharynx, along with imaging pearls and pitfalls.

ABSTRACT
The nasopharynx is the uppermost portion of the upper aerodigestive tract, and it is located posterior to the nasal cavity, inferior to the sphenoid sinus, and anterior to the clivus and craniovertebral junction, above the level of the soft palate. Given its intimate relationship with the central skull base, detailed knowledge of the anatomy of the central skull base, including its canals and foramina, is critical to understanding the spread of disease in this region. Though CT is helpful in imaging diseases of this region, a good knowledge of MR anatomy, and an understanding of optimal MR imaging protocols, is essential to proper imaging and imaging interpretation of diseases of the nasopharynx. We will spend some of our time discussing nasopharyngeal carcinoma, including its demographics, staging, and imaging appearance, but we will also review benign pathologies of the nasopharynx, and other malignant entities. We will also review some imaging pearls for each entity, and also imaging pitfalls, as there are many ways in which the unwary radiologist can overlook or misinterpret significant pathology in the nasopharynx.

Imaging the Oropharynx

Participants
Suresh K. Mukherji, MD, Northville, MI (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Review the normal anatomy of the oropharynx. 2) Illustrate the normal spread patterns of tumors involving various subsites of the oropharynx. 3) Describe the appearance of various infectious and inflammatory processes involving the oropharynx.

ABSTRACT
Imaging plays a crucial role in evaluating the oropharynx. This talk will review the normal anatomy and malignancies involving the oropharynx. The presentation will also review various inflammatory and infectious processes that involve different parts of the oropharynx.

Imaging the Larynx and Hypopharynx

Participants
Peter M. Som, MD, New York, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The registrants will learn the intimate relationship between the larynx and hypopharynx. 2) The anatomy of the larynx and hypopharynx will be reviewed. 3) The major pathology of these structures will be reviewed.

ABSTRACT
The larynx is situated within the hypopharynx and thus their intimate relationship. The anatomy of the larynx and the hypopharynx will be reviewed, especially as it pertains to neoplasms. The scope of inflammatory and neoplastic diseases that affect these structures will be reviewed with particular attention to what should be included in the radiologist’s report to create a pertinent and meaningful report.
RSNA Diagnosis Live™: ‘Bo you don’t know Didley’ - Test Your Diagnostic Skills at the Crack of Dawn

Monday, Nov. 30 7:15AM - 8:15AM Location: E451B

Participants
Adam E. Flanders, MD, Penn Valley, PA (Presenter) Nothing to Disclose
Christopher G. Roth, MD, Philadelphia, PA (Presenter) Nothing to Disclose
Sandeep P. Deshmukh, MD, Philadelphia, PA, (sandeep.deshmukh@jefferson.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will be introduced to a series of radiology case studies via an interactive team game approach designed to encourage “active” consumption of educational content. 2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time. 3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.
CASE-BASED REVIEW OF MAGNETIC RESONANCE (AN INTERACTIVE SESSION)

Monday, Nov. 30 8:30AM - 10:00AM Location: S100AB

Participants
John R. Leyendecker, MD, Dallas, TX (Director) Nothing to Disclose

LEARNING OBJECTIVES

1) Be familiar with the MRI appearance of common musculoskeletal derangements of the hip. 2) Develop a differential diagnosis for musculoskeletal soft tissue tumors based on MRI appearance. 3) Distinguish between common benign and malignant liver neoplasms. 4) Be familiar with the typical MRI appearance of select female pelvic disorders.

ABSTRACT

This session will help attendees recognize and manage select, commonly encountered musculoskeletal and abdominopelvic abnormalities based on their MRI appearances using a case-based, interactive format.

Sub-Events

**MSCM21A**  **Musculoskeletal MRI of the Hip and Pelvis**

Participants
Mini N. Pathria, MD, San Diego, CA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

Active Handout: Mini Nutan Pathria


**MSCM21B**  **MRI of Soft Tissue Masses of the Extremities**

Participants
Kirkland W. Davis, MD, Madison, WI, (kdavis@uwhealth.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Distinguish characteristic extremity soft tissue masses on the basis of signal characteristics, such as high signal on T1-weighted images or low signal on all sequences.

ABSTRACT

**MSCM21C**  **MRI of the Liver**

Participants
Nicole M. Hindman, MD, New York, NY, (Nicole.Hindman@nyumc.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Recognize and analyze benign but unusual liver lesions. 2) Analyze uncommon presentations of liver lesions. 3) Recognize neoplastic mimics of benign lesions in the liver (eg, a colon metastasis mimicking a hemangioma).

ABSTRACT

This session will cover common and uncommon presentations of liver lesions on several modalities (ultrasound, CT and MRI). A brief interactive review of common, but atypical presentations of both benign and malignant liver lesions will be presented. Malignant mimics of benign liver lesions will also be shown, with features that should be analyzed in order to better characterize the lesion, and appropriately raise concern (eg, for a metastasis or intrahepatic cholangiocarcinoma instead of a benign hemangioma). Recent advances in liver lesion characterization will be covered.

**MSCM21D**  **MRI of the Female Pelvic Organs**

Participants
Christine O. Menias, MD, Scottsdale, AZ, (menias.christine@mayo.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

Honored Educators

Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality...
educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Christine O. Menias, MD - 2013 Honored Educator
Christine O. Menias, MD - 2014 Honored Educator
Christine O. Menias, MD - 2015 Honored Educator
Participants
Pamela K. Woodard, MD, Saint Louis, MO (Director) Research Consultant, Bristol-Myers Squibb Company; Research Grant, Astellas Group; Research Grant, F. Hoffmann-La Roche Ltd; Research Grant, Bayer AG; Research agreement, Siemens AG; Research Grant, Actelion Ltd; Research Grant, Guerbet SA; ;
Pamela K. Woodard, MD, Saint Louis, MO (Moderator) Research Consultant, Bristol-Myers Squibb Company; Research Grant, Astellas Group; Research Grant, F. Hoffmann-La Roche Ltd; Research Grant, Bayer AG; Research agreement, Siemens AG; Research Grant, Actelion Ltd; Research Grant, Guerbet SA; ;
Jill E. Jacobs, MD, New York, NY (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify cardiac and coronary artery anatomy. 2) Recognize cardiac disease processes, including coronary atherosclerosis, as diagnosed on CT. 3) Understand methods of cardiac CT and coronary CT angiography post-processing.

Sub-Events

MSMC21A  Normal Coronal Anatomy

Participants
Shawn D. Teague, MD, Indianapolis, IN (Presenter) Stockholder, Apple Inc

LEARNING OBJECTIVES
1) Recognize normal anatomy and common variants of the coronary arteries. 2) Understand the unique advantages and disadvantages of CT for coronary artery evaluation. 3) Describe the current State-of-the-Art capabilities for CT in coronary artery evaluation.

ABSTRACT

MSMC21B  Anomalous Coronary Arteries

Participants
Cylen Javidan-Nejad, MD, Saint Louis, MO (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Using Coronary Artery CT cases to review anomalous origins of the coronary arteries
Strategies for ABR Certifying Exam Preparation and ACGME Program Requirements

Monday, Nov. 30 8:30AM - 10:00AM Location: S102D

Participants
Lori A. Deitte, MD, Nashville, TN, (Lori.deitte@vanderbilt.edu) (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) Discuss the components of the ABR Certifying examination. 2) List a variety of item types that will appear on the examination. 3) Discuss the preliminary results of the most recent administration.

ABSTRACT
The American Board of Radiology offered the Certifying Exam for the first time in October of this year. Unlike the oral board system where the examination was offered during the fourth year of residency, this year's candidates completed the Core Exam in 2013 and have now been in fellowship and/or practicing radiology for the past two years. Graduates of radiology residency are now board eligible and have the challenge of preparing for this exam while also being in a new work environment. Perspectives on preparing for the exam during fellowship and while practicing in an academic center will be discussed.

Participants
Sonya Bhole, MD, Park Ridge, IL (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Describe resources to help prepare for the new ABR certifying exam. 2) Discuss perspectives on how to balance ABR certifying exam preparation with starting a job in academic medicine.

ABSTRACT
Since the 2007 American Board of Radiology (ABR) announcement of a change in the ABR examination format, timing and content, radiology educators have been analyzing these changes and their potential impact on interviewing for and starting an academic or private practice job. The first cohort of radiologists eligible for the new ABR certifying examination will have completed this exam approximately two months prior to the RSNA meeting. Perspectives on preparing for the exam while starting a private practice job will be discussed. Ideas on how future board eligible radiologists might approach the ABR certifying exam preparation process will be highlighted during the presentation.

Participants
Mark E. Mullins, MD, PhD, Atlanta, GA, (memulli@emory.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Define noninterpretive skills within the context of a Diagnostic Radiology Residency, Radiology-related fellowship and practice following training. 2) Appraise challenges and opportunities related to noninterpretive skills. 3) Develop a personal strategic plan for assessment and improvement related to noninterpretive skills.

ABSTRACT
Interest in noninterpretive skills may be related to changes in ACGME requirements, ABR examinations, and other institutional/regulatory mandates. Ultimately, the most convincing reason to prioritize these skills is the importance that they play in our everyday life as Radiologists and Radiologists-in-training. In this session, we will review noninterpretive skills and share practical
tips on how to teach and assess these essential skills.
**Head and Neck Top Five: Important Anatomy, Missed Diagnoses and Imaging Pearls**

*Monday, Nov. 30 8:30AM - 10:00AM Location: E450A*

**IMPORTANT HEAD AND NECK ANATOMY**

Participants
Hugh D. Curtin, MD, Boston, MA (Hugh_Curtin@meei.harvard.edu) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) The participant will be able to identify the key 'fat pads' at the exit points of those cranial nerves most often affected by perineural spread. 2) The participant will be able to describe the fasical organization of the parapharyngeal region. 3) The participant will be able to locate the laryngeal ventricle using axial and coronal imaging.

**ABSTRACT**

Important Anatomy Head and neck imaging relies heavily on an understanding of the intricate and often difficult anatomy. The session will focus on identification of anatomy that is crucial in defining the margins and patterns of spread of pathology. Other landmarks that are key to description of the location of lesions are also covered. For instance, there is a small amount of fat located just external to each neural foramen through which perineural spread of carcinoma may pass. The most important of these primary 'fat pads' are located in the pterygopalatine fossa (external to foramen rotundum), just inferior to foramen ovale (trigeminal fat pad), and the stylomastoid foramen (facial nerve) fat pad. These fat pads should be examined for potential obliteration as tumor approaches the foramen. The laryngeal ventricle is key to the organization of the larynx and reports should localize lesions related to this important structure. The ventricle may not be directly visible depending on the phase of respiration of an imaging scan. However the lateral wall of the larynx transitions from fat to muscle at the level of the ventricle. The ventricle is located at the upper margin of the thyroarytenoid muscle that makes up the bulk of the true vocal cord. The parapharyngeal spaces are crossed by several substantial fascial layers. The fascia organize the region into compartments that help the radiologist predict the identity of tumors in that location. Specifically, the anatomy makes it possible to separate tumors that are almost certainly of salivary origin from those that are not. Other specific anatomic points useful in interpretation or characterization will also be discussed.

**MISSED DIAGNOSES IN THE HEAD AND NECK**

Participants
Phillip R. Chapman, MD, Birmingham, AL (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Identify some of the most common mistakes radiologists make when evaluating MRI or CT scans of the neck and skull base. 2) Identify different patterns of perineural tumor spread (PNTS) and understand the subtle CT and MRI changes that indicate early PNTS. 3) Recognize atypical patterns of metastatic nodal disease and how it can be missed on routine CT scans. 4) Identify changes in the nasopharynx and skull base that indicate invasive infectious or neoplastic process. 5) Identify easily missed superficial lesions of the dermis that might represent primary cutaneous tumor or dermal metastases. 6) Understand the basic anatomy of the oral cavity including specific anatomic subunits, the appearance of oral cavity neoplasms and pitfalls in imaging oral cavity cancers.

**ABSTRACT**

This presentation will highlight some of the most common mistakes and misdiagnoses that radiologists make when interpreting head and neck studies, including MRI and CT examinations. Many 'misses' are difficult, and rely on identifying subtle changes in small structures in the complex landscape of the neck and skull base. Other misses are difficult because they are relatively rare and may not be on the radar of most radiologists. Some misdiagnoses are the result of satisfaction of search, and are observed in complex cases, especially complex head and neck cancer. Post treatment changes in the neck impose additional limitations on imaging of the head and neck. This lecture will identify some common mistakes that are made in both private and academic practices. Cases will be presented using a case-based approach. They keys to identifying the pertinent findings and making each diagnosis will be highlighted.

**HEAD AND NECK IMAGING PEARLS**

Participants
Christine M. Glastonbury, MBBS, San Francisco, CA (Christine.glastonbury@ucsf.edu) (Presenter) Author with royalties, Reed Elsevier

**LEARNING OBJECTIVES**

1) To learn the key points that create a succinct imaging differential diagnosis while appreciating the 'big picture' in HandN imaging. 2) To recognize the imaging findings of critical disease and what to do or recommend next with your patient.

**ABSTRACT**

This session will review some important pearls in head and neck imaging. These tips and tricks will review some important aspects of
imaging in the head and neck to help with protocoling studies, as well as techniques for imaging and interpretation. Important imaging differentials will also be reviewed and discussed.
Creating, Storing, and Sharing Teaching Files Using RSNA's MIRC® (Hands-on)

Monday, Nov. 30 8:30AM - 10:00AM Location: S401AB

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

Participants
Krishna Juluru, MD, New York, NY (Moderator) Nothing to Disclose
Andre M. Pereira, MD, Toronto, ON (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Learn how easy it is to install the new and improved RSNA teaching file software with the one-click installer. 2) Learn how to create, organize, and share teaching files, create conference documents and save interesting cases for yourself, your group or your department.
**Case-based Review of Magnetic Resonance (An Interactive Session)**

Monday, Nov. 30 10:30AM - 12:00PM Location: S100AB

**LEARNING OBJECTIVES**

1) Understand the role of MRI in diagnosing abnormalities of the breast. 2) Be familiar with the MRI appearance of select cardiothoracic abnormalities. 3) Effectively use MRI to diagnose disorders of the head and neck. 4) Distinguish between a variety of brain lesions based on MRI appearance.

**ABSTRACT**

This session will help attendees recognize and manage select, commonly encountered breast, cardiothoracic, head and neck, and brain abnormalities based on their MRI appearances using a case-based, interactive format.

**Sub-Events**

**MSCM22A  Breast MRI**

Participants
John R. Leyendecker, MD, Dallas, TX (Director) Nothing to Disclose

**LEARNING OBJECTIVES**

View learning objectives under main course title.

**ABSTRACT**

Participants
Fiona J. Gilbert, MD, Cambridge, United Kingdom (Presenter) Medical Advisory Board, General Electric Company; Research Grant, GlaxoSmithKline plc; Research Grant, General Electric Company

**LEARNING OBJECTIVES**

View learning objectives under main course title.

**MSCM22B  Cardiothoracic MRI**

Participants
Suhny Abbara, MD, Dallas, TX (Presenter) Author, Reed Elsevier; Editor, Reed Elsevier; Institutional research agreement, Koninklijke Philips NV; Institutional research agreement, Siemens AG

**LEARNING OBJECTIVES**

View learning objectives under main course title.

**ABSTRACT**

Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Suhny Abbara, MD - 2014 Honored Educator

**MSCM22C  Head and Neck MRI**

Participants
Daniel W. Williams III, MD, Winston Salem, NC (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

View learning objectives under main course title.

**MSCM22D  Brain MRI**

Participants
Mauricio Castillo, MD, Chapel Hill, NC (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Review the differential diagnosis and imaging features of intraventricular masses in children and adults. 2) Review the cerebral complications of treatment vascular malformations. 3) Review the differential diagnosis and imaging features of masses arising in the cerebello-pontine angle region. 4) Review the differential diagnosis of cerebral microbleeds.
Participants
Pamela K. Woodard, MD, Saint Louis, MO (Director) Research Consultant, Bristol-Myers Squibb Company; Research Grant, Astellas Group; Research Grant, F. Hoffmann-La Roche Ltd; Research Grant, Bayer AG; Research agreement, Siemens AG; Research Grant, Actelion Ltd; Research Grant, Guerbet SA; ; Geoffrey D. Rubin, MD, Durham, NC (Moderator) Consultant, Fovia, Inc; Consultant, Informatics in Context, Inc; Research Consultant, General Electric Company; Arthur E. Stillman, MD, PhD, Atlanta, GA (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify cardiac and coronary artery anatomy. 2) Recognize cardiac disease processes, including coronary atherosclerosis, as diagnosed on CT. 3) Understand methods of cardiac CT and coronary CT angiography post-processing.

Sub-Events

MSMC22A Coronary Atherosclerosis I

Participants
Geoffrey D. Rubin, MD, Durham, NC (Presenter) Consultant, Fovia, Inc; Consultant, Informatics in Context, Inc; Research Consultant, General Electric Company;

LEARNING OBJECTIVES
View learning objectives under main course title.

MSMC22B Coronary Atherosclerosis II

Participants
Smita Patel, MBBS, Ann Arbor, MI (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT

Valves and Cardiac Function

Participants
Andrew J. Bierhals, MD, Saint Louis, MO (Presenter) Research Grant, Johnson & Johnson

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT
Cardiac CT can provide information on valves and function when retrospective ECG gating is used in the acquisition. These studies require extensive image post-processing to accurately depict the moving structures. This presentation will highlight basic image acquisition as well as the evaluation of normal and abnormal patients.
Participants
Diana Litmanovich, MD, Haifa, Israel (Director) Nothing to Disclose

Sub-Events

**MSCT21A  Congenital Thoracic Pathology**

Participants
Edward Y. Lee, MD, MPH, Boston, MA, (Edward.Lee@childrens.harvard.edu) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Review the current imaging technique for evaluating congenital thoracic anomalies in infants and children. 2) Learn important clinical aspects and characteristic imaging features of various congenital thoracic anomalies in pediatric patients. 3) Discuss key imaging findings which allow differentiation among various congenital thoracic anomalies in infants and children.

**ABSTRACT**

The diffuse lung diseases (DLDs) are an intriguing and challenging group of lung disorders in which a multidisciplinary approach to management is key. Imaging tests (and specifically, high-resolution computed tomography [HRCT]) are an important part of the evaluation of patients with suspected and established DLDs. A systematic approach to the diagnosis is important: an awareness of HRCT sign and the relationship between radiologic and histopathologic patterns is crucial. In addition to the differential diagnoses, this session will stress some of the important HRCT signs of DLDs and, where appropriate, the relationship with pathologic features.

**MSCT21B  Diffuse Lung Disease**

Participants
Sujal R. Desai, MBBS, London, United Kingdom, (sujal.desai@nhs.net) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) To become familiar with the key patterns of diffuse interstitial lung diseases on chest radiography and HRCT. 2) To understand the relationships between HRCT signs and histopathologic changes. 3) To become familiar with some of the common types of diffuse interstitial lung diseases.

**ABSTRACT**

The diffuse lung diseases (DLDs) are an intriguing and challenging group of lung disorders in which a multidisciplinary approach to management is key. Imaging tests (and specifically, high-resolution computed tomography [HRCT]) are an important part of the evaluation of patients with suspected and established DLDs. A systematic approach to the diagnosis is important: an awareness of HRCT sign and the relationship between radiologic and histopathologic patterns is crucial. In addition to the differential diagnoses, this session will stress some of the important HRCT signs of DLDs and, where appropriate, the relationship with pathologic features.

**MSCT21C  Cystic Lung Disease**

Participants
Andetta R. Hunsaker, MD, Boston, MA (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Identify dominant features in cystic lung disease and distinguish between their varied radiologic presentations. 2) Detect additional features in patients with cystic lung disease which will be helpful in diagnosis. 3) Differentiate between true cystic lung disease and mimickers such as bronchiectasis. 4) Recommend appropriate follow-up based on the diagnosis.

**ABSTRACT**

Abstract not needed.
Cardiac CT Mentored Case Review: Part III (In Conjunction with the North American Society for Cardiac Imaging) (An Interactive Session)

Monday, Nov. 30 1:30PM - 3:00PM Location: S406A

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

FDA

Discussions may include off-label uses.

Participants
Pamela K. Woodard, MD, Saint Louis, MO (Director) Research Consultant, Bristol-Myers Squibb Company; Research Grant, Astellas Group; Research Grant, F. Hoffmann-La Roche Ltd; Research Grant, Bayer AG; Research agreement, Siemens AG; Research Grant, Actelion Ltd; Research Grant, Guerbet SA;
Harold I. Litt, MD, PhD, Philadelphia, PA (Moderator) Research Grant, Siemens AG; Research Grant, Heartflow, Inc;
U. Joseph Schoepf, MD, Charleston, SC, (schoepf@musc.edu) (Moderator) Research Grant, Bracco Group; Research Grant, Bayer AG; Research Grant, General Electric Company; Research Grant, Siemens AG; Research support, Bayer AG;

LEARNING OBJECTIVES
1) Identify cardiac and coronary artery anatomy. 2) Recognize cardiac disease processes, including coronary atherosclerosis, as diagnosed on CT. 3) Understand methods of cardiac CT and coronary CT angiography post-processing.

Sub-Events

MSMC23A Pulmonary Veins and Pericardial Disease

Participants
Jacobo Kirsch, MD, Weston, FL (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Describe normal versus anomalous pulmonary venous anatomy. 2) Understand the imaging findings of complications of ablation for atrial fibrillation. 3) Describe abnormalities of the pulmonary veins identifiable on routine CT. 4) Identify the most common pericardial abnormalities evaluated with CT.

Honored Educators
Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Jacobo Kirsch, MD - 2013 Honored Educator

MSMC23B Coronary Atherosclerosis III

Participants
Elliot K. Fishman, MD, Owings Mills, MD (Presenter) Research support, Siemens AG Advisory Board, Siemens AG Research support, General Electric Company Advisory Board, General Electric Company Co-founder, HipGraphics, Inc

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT
The goal of this session is to learn how to interpret pathology involving the coronary arteries beyond the detection of coronary artery stenosis. Focus on exam acquisition protocols, study interpretation protocols, and minimizing radiation dose are addressed. Specific topics addressed will also include coronary artery aneurysm, myocardial bridging, anomalous coronary arteries as well as vasculitis. Potential pitfalls will be addressed and pearls for study optimization will also be discussed.

Honored Educators
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Elliot K. Fishman, MD - 2012 Honored Educator
Elliot K. Fishman, MD - 2014 Honored Educator
Physics Symposium: Best of the SRS/SBRT AAPM Summer School
Monday, Nov. 30 1:30PM - 5:45PM Location: S102C

PH SQ
AMA PRA Category 1 Credits ™: 4.00
ARRT Category A+ Credits: 4.00

Participants

LEARNING OBJECTIVES

1) Identify critical anatomical features of major SRS/SBRT targets. 2) Learn techniques used in small field dosimetry and the order of magnitude of treatment uncertainties. 3) Learn essential treatment planning techniques, especially with regards to respiratory motion management. 4) Gain knowledge about treatment delivery devices for SRS/SBRT. 5) Understand resources and safety practices for SRS/SBRT.

ABSTRACT

This session summarizes the highlights of the 2014 AAPM Summer School on SRS/SBRT. The first speaker will highlight critical anatomical structures which physicists and treatment planners need to be aware of in SRS/SBRT. Contouring atlases specific to SRS/SBRT are discussed, e.g. the consensus guidelines published by the spine consortium. The second lecture focuses on the physics of small field dosimetry, which is a special skill set within the field of clinical medical physics. The state-of-the-art recommendation on detector selection and measurement techniques will be discussed, including current recommendations on the use of detector correction factors. The third speaker will summarize treatment planning approaches specific to classic SRS/SBRT targets in the brain, lung, GI and GU regions. The appropriate use of respiratory management techniques for SBRT in lung, liver and pancreas requires the careful and considerate application of complex technology. Current society recommendations and peer-reviewed literature on accepted approaches to respiratory motion management will be summarized. In the last decade, the selection of treatment machines capable of delivering SRS/SBRT treatments with the required spatial and dosimetric accuracy has increased significantly. The speaker will discuss the major technical components of each delivery device, highlighting strength and weaknesses of each system as they apply to SRS/SBRT. SRS/SBRT delivers a high dose with steep dose gradients in 1-5 fractions, using complex technology with image guidance. Both the risk of error and the impact of errors is amplified under these circumstances. The last speaker of this session will discuss selected case reports of errors, including a root cause analysis. Current safety initiatives and recommendations for improved safety practices will be introduced. Resources to guide safe and effective implementation of an SRS/SBRT program will be discussed and shared with the audience.

Sub-Events

SPPH22A  Anatomy for SRS/SBRT

Participants
Josh Y. Yamada, MD, New York, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under the main course title.

SPPH22B  Small Field Dosimetry and Uncertainty

Participants
Sonja Dieterich, PhD, Sacramento, CA, (sdieterich@ucdavis.edu) (Presenter) Scientific Advisor, MGS Research, Inc

LEARNING OBJECTIVES

View learning objectives under the main course title.

ABSTRACT

This session summarizes the highlights of the 2014 AAPM Summer School on SRS/SBRT. The first speaker will highlight critical anatomical structures which physicists and treatment planners need to be aware of in SRS/SBRT. Contouring atlases specific to SRS/SBRT are discussed, e.g. the consensus guidelines published by the spine consortium. The second lecture focuses on the physics of small field dosimetry, which is a special skill set within the field of clinical medical physics. The state-of-the-art recommendation on detector selection and measurement techniques will be discussed, including current recommendations on the use of detector correction factors. The third speaker will summarize treatment planning approaches specific to classic SRS/SBRT targets in the brain, lung, GI and GU regions. The appropriate use of respiratory management techniques for SBRT in lung, liver and pancreas requires the careful and considerate application of complex technology. Current society recommendations and peer-reviewed literature on accepted approaches to respiratory motion management will be summarized. In the last decade, the selection of treatment machines capable of delivering SRS/SBRT treatments with the required spatial and dosimetric accuracy has increased significantly. The speaker will discuss the major technical components of each delivery device, highlighting strength and weaknesses of each system as they apply to SRS/SBRT. SRS/SBRT delivers a high dose with steep dose gradients in 1-5 fractions, using complex technology with image guidance. Both the risk of error and the impact of errors is amplified under these circumstances. The last speaker of this session will discuss selected case reports of errors, including a root cause analysis. Current safety initiatives and recommendations for improved safety practices will be introduced. Resources to guide safe and effective implementation of an SRS/SBRT program will be discussed and shared with the audience.

Active Handout: Sonja Dieterich

Handout: Sonja Dieterich
SPPH22C  Treatment Planning and Respiratory Motion Management for SBRT

Participants
Kristi R. Hendrickson, PhD, Seattle, WA, (krgh@uw.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

SPPH22D  SRS/SBRT Delivery Devices

Participants
James Gordon, PhD, Detroit, MI (Presenter) Departmental Research Grant, Varian Medical Systems, Inc; Departmental Research Grant, Koninklijke Philips NV

LEARNING OBJECTIVES
View learning objectives under main course title.

SPPH22E  Safety and Quality for SRS/SBRT

Participants
Stanley H. Benedict, PhD, Sacramento, CA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

Active Handout: Stanley H Benedict
**LEARNING OBJECTIVES**

1) Review the current imaging technique for evaluating airway disorders in adult population, with an emphasis on radiation dose reduction. 2) Learn important clinical aspects and characteristic imaging features (both static and dynamic) of various airways abnormalities. 3) Discuss key imaging findings which allow differentiation among various airway disorders, as well as alternative imaging modalities such as thoracic MRI.

**ABSTRACT**

Thoracic trauma is a key component of clinical practice, and radiological evaluation of trauma patients is integral to their surgical management. The medical understanding of civilian thoracic trauma has historically been informed by experiences in military combat. In turn, the development of modern imaging technology in the civilian sector has revolutionized triage and operative planning of trauma patients in both civilian and military settings. This complex interplay between civilian and military trauma care continues today, particularly with the advent of urban warfare. One example of the applicability of military thoracic trauma to the civilian sector is blast injury, a hallmark of modern combat trauma that has increased significantly in the civilian developed world. Most radiologists will care for thoracic trauma patients in medical treatment facilities equipped with modern imaging and surgical capabilities in a civilian setting and with civilian patterns of injury. However, in addition to conventional trauma radiology, exposure to modern combat-specific trauma cases will continue the educational and mutually beneficial interaction between civilian and military trauma medicine and ultimately benefit patient care.
Cardiac CT Mentored Case Review: Part IV (In Conjunction with the North American Society for Cardiac Imaging) (An Interactive Session)

Monday, Nov. 30 3:30PM - 5:30PM Location: S406A

CA VA CT

AMA PRA Category 1 Credits ™: 2.00
ARRT Category A+ Credits: 2.00

Participants
Pamela K. Woodard, MD, Saint Louis, MO (Director) Research Consultant, Bristol-Myers Squibb Company; Research Grant, Astellas Group; Research Grant, F. Hoffmann-La Roche Ltd; Research Grant, Bayer AG; Research agreement, Siemens AG; Research Grant, Actelion Ltd; Research Grant, Guerbet SA; 
David A. Bluemke, MD, PhD, Bethesda, MD (Moderator) Research support, Siemens AG
Vincent B. Ho, MD, MBA, Bethesda, MD (Moderator) In-kind support, General Electric Company

LEARNING OBJECTIVES
1) To understand the clinical indications for retrospective ECG gated cardiac CT. 2) To illustrate methods to assess myocardial function from cine cardiac CT images. 3) To illustrate methods to assess normal and abnormal valvular function from cine cardiac CT images.

ABSTRACT
The mentored case review provides the opportunity for the attendees to learn the image acquisition, post-processing, and diagnosis for a wide variety of cardiac diseases commonly encountered in CT.

Sub-Events

MSMC24A  Coronary Artery Disease and Incidental Noncardiac Findings

Participants
Frank J. Rybicki III, MD, PhD, Ottawa, ON (Presenter) Research Grant, Toshiba Corporation;

LEARNING OBJECTIVES
1) To review coronary CTA principles, including details related to image acquisition. 2) Demonstrate examples of CAD as depicted by CT. 3) Discuss strategies to assess the hemodynamic significance of individual coronary lesions. 4) Illustrate non-cardiac findings on coronary CTA images.

ABSTRACT
CT Angiography (CTA) is a guideline endorsed strategy to assess symptomatic patients with low to intermediate risk of coronary artery disease in both the non-emergent and emergent settings. Coronary CTA uses ECG gating to freeze cardiac motion and enables assessment of the lumen for stenosis. Coronary CTA has a high negative predictive value, but suffers when a lesion is detected with a moderate stenosis. Emerging CT methods are also exploring the role of CT to assess individual lesions, including ones that have been problematic, for hemodynamic significance. The clinical relevance relates to the fact that only lesions that are hemodynamically significant should undergo intervention, for example with balloon angioplasty and stenting. In addition, each coronary CTA should include images reconstructed “skin to skin” over the entire cranio-caudal field of view that encompasses the heart. Thus, incidental lesions can and should be reported for all coronary CTA studies.

MSMC24B  Congenital Heart Disease

Participants
Dianna M. Bardo, MD, Seattle, WA (Presenter) Speaker, Koninklijke Philips NV; Consultant, Koninklijke Philips NV; Author, Thieme Medical Publishers, Inc

LEARNING OBJECTIVES
1) Recognize the most common congenital heart disease (CHD) findings found in adults with unsuspected CHD. 2) Recognize and understand findings of CHD in patients with known CHD and the findings which may trigger surgical intervention. 3) Recognize the CT findings of commonly performed surgical procedures for palliation of CHD. 4) Develop an organized pattern for search and reporting of CHD findings. 5) Understand why CT is chosen as the advanced imaging modality over MR.

ABSTRACT
Adults with congenital heart disease (CHD) now outnumber children with CHD two to one. This phenomenon is due to the success of surgical palliation and medical management of patients with even the most severe forms of CHD. Surgical intervention is often performed at the time of diagnosis and in patients with residual hemodynamic lesions is often required throughout life. Though echocardiography is typically the initial imaging modality of choice, diagnosis and imaging surveillance of complex hemodynamic and anatomic CHD lesions is now most often accomplished with CT and MR. CT and CTA imaging techniques may be used to show detailed anatomic and functional images of the heart, postoperative changes and long term consequences of CHD. An organized, reproducible approach to identify cardiac anatomy of CHD lesions and surgical palliation should be adopted in order to accurately and thoroughly describe findings.

Active Handout: Dianna M. Ehrhart Bardo

MSMC24C  Coronary Atherosclerosis and Bypass Grafts
Participants
Gautham P. Reddy, MD, Seattle, WA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify focal areas of stenosis in the coronary arteries on CT. 2) Describe the appearance of bypass graft stenosis on coronary CT. 3) Review the diagnosis of aneurysms in the native coronary arteries and in bypass grafts.

ABSTRACT
Honored Educators

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Gautham P. Reddy, MD - 2014 Honored Educator
Participants

LEARNING OBJECTIVES

Sub-Events

RCC25A Podcasting and Screencasting for Teaching

Participants
Mahesh M. Thapa, MD, Seattle, WA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify the utility of podcasts and screencasts. 2) List major software packages available for creating podcasts and screencasts. 3) Understand the steps required to create a podcast or screencast.

RCC25B e-Publishing: Why and How to Do It

Participants
Michael L. Richardson, MD, Seattle, WA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Know the pros and cons of publishing electronic books. 2) Know the two main formats for publishing electronic books. 3) Be aware of several strategies for converting one’s book to electronic form. 4) Know the pros and cons of several software packages used for electronic book conversion.

Honored Educators

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Michael L. Richardson, MD - 2013 Honored Educator
Michael L. Richardson, MD - 2015 Honored Educator

RCC25C Lecturing 2.0: Innovative Tools and Techniques to Improve the Way We Teach and Learn

Participants
Harprit S. Bedi, MD, Boston, MA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify techniques to incorporate mobile technology into your teaching program. 2) Appraise your current teaching practices in light of the new pedagogical approaches introduced in the lecture.
Participants
Paul J. Chang, MD, Chicago, IL, (pchang@radiology.bsd.uchicago.edu) (Presenter) Co-founder, Stentor/Koninklijke Philips NV; Researcher, Koninklijke Philips NV; Medical Advisory Board, lifeIMAGE Inc; Medical Advisory Board, Merge Healthcare Incorporated
Gregory L. Katzman, MD, Chicago, IL (Presenter) Nothing to Disclose
Neety Panu, MD, FRCPC, Thunder Bay, ON (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will be introduced to a series of radiology case studies via an interactive team game approach designed to encourage "active" consumption of educational content. 2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time. 3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.
**RSNA Diagnosis Live™: 'Tic Tac D'Oh' - Test Your Diagnostic Skills at the Crack of Dawn**

Tuesday, Dec. 1 7:15AM - 8:15AM Location: E451B

**Participants**
Adam E. Flanders, MD, Penn Valley, PA (*Presenter*) Nothing to Disclose
Christopher G. Roth, MD, Philadelphia, PA (*Presenter*) Nothing to Disclose
Sandeep P. Deshmukh, MD, Philadelphia, PA, (sandeep.deshmukh@jefferson.edu) (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) The participant will be introduced to a series of radiology case studies via an interactive team game approach designed to encourage "active" consumption of educational content.
2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time.
3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.
Case-based Review of Nuclear Medicine: PET/CT Workshop-Head and Neck Cancers (In Conjunction with SNMMI) (An Interactive Session)

Tuesday, Dec. 1 8:30AM - 10:00AM Location: S406A

Participants
Janis P. O'Malley, MD, Birmingham, AL (Director) Nothing to Disclose
Jonathan E. McConathy, MD, PhD, Saint Louis, MO (Presenter) Research Consultant, Eli Lilly and Company; Research Consultant, Blue Earth Diagnostics Ltd; Research Consultant, Siemens AG; Research support, GlaxoSmithKline plc

LEARNING OBJECTIVES

1) Participants will use FDG-PET/CT more effectively in their clinical practice through better understanding of the anatomy, clinical scenarios, and differential diagnoses relevant to the diagnostic imaging of head and neck cancers.
**MSES31 Essentials of Chest Imaging**

Tuesday, Dec. 1 8:30AM - 10:00AM Location: S100AB

**AMAPA Category I Credits**: 1.50
**ARRT Category A+ Credits**: 1.50

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### Participants

#### Sub-Events

**MSES31A Large Airway Disease**

**Participants**

Phillip M. Boiselle, MD, Boston, MA (**Presenter**) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Accurately identify normal large airway anatomy, variants, and common forms of pathology on MDCT scans. 2) Employ a pattern-based approach to facilitate accurate diagnosis of congenital and acquired causes of large airways disease on MDCT scans. 3) Recognize the overlap of MDCT airway findings between health and disease states.

**ABSTRACT**

1. Accurately identify normal large airway anatomy, variants, and common forms of pathology on MDCT scans. 2. Employ a pattern-based approach to facilitate accurate diagnosis of congenital and acquired causes of large airways disease on MDCT scans. 3. Recognize the overlap of MDCT airway findings between health and disease states.

**Honored Educators**

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Phillip M. Boiselle, MD - 2012 Honored Educator

**MSES31B Pleural Disease**

**Participants**

Travis S. Henry, MD, San Francisco, CA (**Presenter**) Spouse, Medical Director, F. Hoffmann-La Roche Ltd

**LEARNING OBJECTIVES**

1) Identify pleural thickening and differentiate the appearance from normal pleura on imaging. 2) Differentiate different causes of unilateral and bilateral pleural effusions to help narrow a differential diagnosis or provide a specific diagnosis. 3) Identify different manifestations of asbestos-related pleural disease. 4) Provide a differential diagnosis for pleural tumors.

**ABSTRACT**

1. Identify pleural thickening and differentiate the appearance from normal pleura on imaging. 2. Differentiate different causes of unilateral and bilateral pleural effusions to help narrow a differential diagnosis or provide a specific diagnosis. 3. Identify different manifestations of asbestos-related pleural disease. 4. Provide a differential diagnosis for pleural tumors.

**MSES31C HRCT Reticular Pattern**

**Participants**

Susan J. Copley, MD, FRCR, London, United Kingdom, (sue.copley@imperial.nhs.uk) (**Presenter**) Consultant, Boehringer Ingelheim GmbH; Consultant, InterMune, Inc

**LEARNING OBJECTIVES**

1) Accurately identify the Reticular pattern on HRCT. 2) List the differential diagnosis for the reticular pattern. 3) Recognize distinguishing features of particular entities that may result in this pattern.

**ABSTRACT**

1. Accurately identify the Reticular pattern on HRCT. 2) List the differential diagnosis for the reticular pattern. 3) Recognize distinguishing features of particular entities that may result in this pattern.
LEARNING OBJECTIVES

1) Educate program directors about software tools and work strategies that can make data collection for the Next Accreditation System more efficient. 2) Illustrate hardware and software technology that is useful in delivery of educational content to residents during conferences and for just-in-time learning. 3) Learn about the tools developed by the RSNA that can be useful to residents and program directors for delivery of educational content and in residency program administration. 4) Discover ways that the popular video portal YouTube can be used to deliver educational content and track learning activities.

ABSTRACT

Radiology residency administration is an increasingly time- and labor-intensive activity for Program Directors and Coordinators. Under the Next Accreditation System, learning activities for each of the 12 Radiology Resident Milestones must be developed, and each resident’s progress toward mastery must be tracked and reported semi-annually to the ACGME. Much work has been done in the Radiology community in developing materials that can be used for imparting both clinical and non-clinical skills to residents. This Refresher Course will present technologies and strategies that can be helpful to program directors to disseminate this information and content to resident learners, and to efficiently measure and report their progress to ACGME.

Active Handout: Terry S. Desser


Sub-Events

RC302A Technologies for Educational Content Delivery

Participants
Harprit S. Bedi, MD, Boston, MA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

RC302B RSNA Technologies for Resident Education

Participants
William J. Weadock, MD, Ann Arbor, MI (Presenter) Owner, Weadock Software, LLC

LEARNING OBJECTIVES

View learning objectives under main course title.

RC302C YouTube: Pros and Cons as an Educational Outlet

Participants
Christopher F. Beaulieu, MD, PhD, Stanford, CA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Describe the steps involved in creation and posting of a YouTube video. 2) List the benefits of free, worldwide accessible radiology education videos. 3) Explain current limitations of YouTube as pertaining to radiology education.

ABSTRACT

Most radiology conferences are delivered locally to small groups of learners and are not recorded. For the presenter, these efforts involve many hours of preparation, and it can be disappointing that only a subset of trainees attend a given conference. YouTube makes it possible to post large video files at no cost, enabling any time, anywhere viewing. This makes teaching materials continuously accessible to large numbers of viewers. Creation of a video can be quite time efficient if it is recorded simultaneous to the live presentation. Several software programs provide both live web streaming and video/audio capture. For radiology, high quality video recording is critical. Audio quality can be excellent with use of a microphone. Benefits of YouTube include its no-cost hosting, high quality playback, the ability to obtain viewer comments, and quantitative “analytics” related to viewership. Analytics include number of views, location, viewing time, gender, and numerous other metrics. YouTube videos can also be “embedded” in other web sites. One can also elect to “monetize” content to collect a small amount of ad-sharing revenue (~0.2 cents per view) if ads are included. Disadvantages of YouTube include the time required to create and post the content, varying educators’ viewpoints in terms of whether they want to record and post, and limited feedback. There are also copyright and branding issues that have yet to be fully understood. Thus far, my experience with YouTube has been very positive. Residents and fellows appreciate the ability to view or review the content on their own time. Trainees can preview a didactic video before conference and use conference time for related cases. Worldwide viewership has resulted in over 50,000 views in the last year, translating into over 5000 virtual lecture hours (live lecture time 11 hours). To view my channel, see: https://www.youtube.com/user/MozchopsMD
Participants
Henry J. Baskin JR, MD, Salt Lake Cty, UT (Presenter) Nothing to Disclose
Justin Cramer, MD, Salt Lake City, UT (Presenter) Nothing to Disclose
Justin La Plante, MD, Sayre, PA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Become familiar with Apple's free ebook authoring tool, iBooks Author. 2) Create a sample radiology ebook during the course. 3) Learn how to freely share your ebook with others.

ABSTRACT
The iPad is rapidly becoming the de facto learning tool used by radiology residents and fellows. iBooks Author, a free authoring tool from Apple, enables the creation of ebooks with a near-limitless number of high-resolution images, movies, and other interactive elements. Unfortunately, most radiologists lack the expertise to leverage the advantages of this application. This hands-on workshop will cover the basics of iBooks Author. During the course, attendees will create their own interactive radiology ebook and learn how to freely share it with anyone who has an iPad. iBooks Author is only available for Mac OS and bringing your own Mac is required for the hands-on portion of the course. Attendees are encouraged to download iBooks Author prior to attending; the link is provided below. Attendees are also encouraged to come with an idea for their own iBook, ideally with a text file and folder of images they would like to turn into an ebook during the course. Sample text and images will be provided for those who do not bring their own material.
Case-based Review of Nuclear Medicine: PET/CT Workshop-Cancers of the Thorax (In Conjunction with SNMMI) (An Interactive Session)

Tuesday, Dec. 1 10:30AM - 12:00PM Location: S406A

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

Participants
Janis P. O'Malley, MD, Birmingham, AL (Director) Nothing to Disclose
Katherine A. Zukotynski, MD, Toronto, ON (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Apply basic anatomic, pathologic, and physiologic principles to the interpretation of PET/CT with emphasis on cancers of the thorax. 2) Identify artifacts that can influence interpretation of PET/CT studies and analyze factors that can improve image quality while minimizing patient risk. 3) Demonstrate understanding of issues on current and future practice patterns.

ABSTRACT
Essentials of GI Imaging

Tuesday, Dec. 1 10:30AM - 12:00PM Location: S100AB

MSES32A
Imaging Esophageal Cancer

Participants
Peter L. Davis, MD, Pittsburgh, PA, (davispl@upmc.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Discuss how esophageal cancer treatment and prognosis is initially determined by stage of the cancer. 2) Understand the present TMN staging system for esophageal cancer. 3) Know how imaging techniques such as endoscopic ultrasound, computed tomography and PET/CT are used to determine the stage and, therefore, the treatment of esophageal cancer.

ABSTRACT
The treatment of esophageal cancer is initially determined by its pretreatment stage. The American Joint Committee on Cancer and the Union for International Cancer Control have recently revised the TNM (primary Tumor, lymph Node involvement, distant Metastasis) staging of esophageal cancer to reflect evidence-based findings supporting different treatments at different stages. The primary tumor stage is dependent on the depth of invasion of the esophageal wall. The T stage will determine if the tumor is resectable. The depth of tumor invasion is best determined by endoscopic ultrasound. CT may help tumor staging by identifying invasion of adjacent structures. Since there is an extensive submucosal lymphatic network that enables early lymph node spread, local-regional lymph node involvement is an important prognostic factor. Although esophageal cancers with lymph node involvement may be treated with just surgical resection, clinical trials have shown increased survival with the addition of neoadjuvant chemoradiotherapy or chemotherapy. Lymph node involvement is also best detected by endoscopic ultrasound, but may be supplemented by PET/CT and CT. Metastatic esophageal cancer has a very poor survival rate that is not significantly improved with surgical resections. Therefore, only chemotherapy is commonly used to treat patients with metastatic disease. PET/CT appears to be best for detecting and precisely locating metastatic disease, but may be supplemented by high quality CT. This lecture will review the recent staging changes. The appropriate use and imaging findings of endoscopic ultrasound, computed tomography, and PET/CT to determine the proper stage will be shown.

MSES32B
Imaging of Colorectal Cancer

Participants
Seong Ho Park, MD, Seoul, Korea, Republic Of, (parksh.radiology@gmail.com) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Define the role of radiological imaging in the management of colorectal cancer patients. 2) Apply state-of-the-art imaging techniques to evaluate colorectal cancer patients. 3) Explain the typical and atypical imaging findings of colorectal cancer lesions and differentiate them from treatment-related findings.

ABSTRACT
Not applicable

Handout: Seong Ho Park

MSES32C
Liver Lesions in Cancer Patients

Participants
Jeong Min Lee, MD, Seoul, Korea, Republic Of (Presenter) Grant, Guerbet SA; Support, Siemens AG; Support, Koninklijke Philips NV; Grant, Bayer AG; Consultant, Bayer AG; Grant, General Electric Company; Support General Electric Company; Grant, STARmed Co, Ltd; Grant, RF Medical Co, Ltd; Grant, Toshiba Corporation; Grant, Dong-Seo Medical Industrial Co, Ltd

LEARNING OBJECTIVES
1) Describe common incidental lesions in the liver at various stages of a cancer patient's journey. 2) To recognize the role of MRI in comparison with CT in characterization of incidental liver lesion in cancer patients, and explain how technical advances in MR can help address challenges in characterization of those incidental lesions. 3) To illustrate the diagnostic assessment of morphologic features of incidental liver lesions in cancer patients and review
RSNA Resident and Fellow Symposium: Career 101: Essentials for Every New Attending Radiologist (An Interactive Session)

Tuesday, Dec. 1 10:30AM - 12:00PM Location: E451B

Participants

LEARNING OBJECTIVES

Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

Sub-Events

MSRP31A 8 Reasons to Be Optimistic about the Future of Radiology

Participants
Amelia Wnorowski, MD, Philadelphia, PA (Presenter) Nothing to Disclose
Jonathan W. Berlin, MD, Evanston, IL (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Articulate some of the key reasons radiologists will be essential in new payment systems. 2) Understand the importance of radiology data in tracking disease management with regards to population health. 3) Consider ways radiologists can increase their outreach.

ABSTRACT

With the changing healthcare economic environment it is tempting for radiologists to feel pessimistic about their uncertain future role in healthcare systems. However, there is significant cause for optimism. Radiology utilization management, data mining, and screening in selected high risk populations will likely be important for new payment systems including accountable care organizations and bundled payments. Putting the job of the radiologist in perspective with other occupations is also helpful when considering a radiology career. This lecture will assess the opportunities for radiologists in new payment systems and also provide some comparative analysis of radiology and other occupations.

MSRP31B Medical Malpractice: Common Pitfalls New Attending Radiologists Should Avoid

Participants
Gelareh Sadigh, MD, Atlanta, GA, (gsadigh@emory.edu) (Presenter) Nothing to Disclose
Leonard Berlin, MD, Skokie, IL (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Identify situations that can contribute to professional liability losses for radiologists. 2) Apply risk management strategies to enhance patient care and reduce potential professional liability exposures created by missed diagnoses, failure to adequately communicate significant and unexpected radiologic findings to referring physicians and in certain situations to the patient, improperly performed interventional radiologic procedures, and improperly administering radiation oncology treatment. 3) Implement processes that will maximize the chances of successfully defending a medical malpractice lawsuit if it is incurred.

ABSTRACT

This Course will explore and focus on the subject of medical malpractice litigation: what constitutes a violation of the standard of care, what are the common and uncommon events that lead to, and what is the role of expert witnesses in, a malpractice lawsuit, and how can the likelihood of being accused of malpractice be minimized.
Case-based Review of Nuclear Medicine: PET/CT Workshop-Cancers of the Abdomen and Pelvis (In
Conjunction with SNMMI) (An Interactive Session)

Tuesday, Dec. 1 1:30PM - 3:00PM Location: S406A

Participants
Janis P. O’Malley, MD, Birmingham, AL (Director) Nothing to Disclose
Ciaran J. Johnston, MD, Dublin, Ireland (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Identify the utility of PET CT in staging a wide variety of primary and recurrent GI, GU and gynecological cancers. 2) Differentiate patterns of physiological FDG uptake from pathologic processes. 3) Explain the importance of CT correlation for selected cancer subgroups. 4) Describe the role of PET CT in assessing patient response to radiation therapy and chemotherapy, including early assessment and PET influenced treatment strategies.
**MSE33**

**Essentials of Musculoskeletal Imaging**

Tuesday, Dec. 1 1:30PM - 3:00PM Location: S100AB

MK  MR  US

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

Participants

Sub-Events

**MSE33A  Introduction to Musculoskeletal Ultrasound**

Participants
Maha Torabi, MD, Winston Salem, NC, (mtorabi@wakehealth.edu) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) List the indications, benefits, and limitations of musculoskeletal ultrasound. 2) Demonstrate proper transducer manipulation and system optimization to produce diagnostic images. 3) Recognize common pathology of the musculoskeletal system as seen at ultrasound.

**ABSTRACT**

Active Handout: Maha Torabi

http://abstract.rsna.org/uploads/2015/15001838/Active MSE33A.pdf

**MSE33B  MRI of Injuries in the High Performance Athlete**

Participants

**LEARNING OBJECTIVES**

1) Recognize patterns of injury in high performance athletes using MRI. 2) Be able to relate pathology to common injuries in the general population. 3) Realize implications of injury in females and adolescent athletes.

**MSE33C  Return to Play: Imaging the Athlete**

Participants
Bethany U. Casagranda, DO, Pittsburgh, PA (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Define Return to Play. 2) Discuss social pressures and controversial dogma surrounding Return to Play. 3) Recognize imaging findings of common sports related injuries. 4) Discuss the radiologist’s role in diagnosis of pathology and communication with referring physicians.

**ABSTRACT**

Athletes of all levels are encumbered by injury and the social stresses of returning to play (RTP). RTP is a broad topic describing the time it takes an athlete to return to their sport after sustaining an injury. This discussion will encompass various levels of play, several sports and position-specific injuries. The focus will be on common injuries as well as controversial topics. Overall, emphasis is on imaging and the role of the radiologist caring for athletes.


RSNA Resident and Fellow Symposium: Career 102: Essentials for Residency and Job Success (An Interactive Session)

Tuesday, Dec. 1 1:30PM - 3:00PM Location: E451B

ED

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 0

Participants

LEARNING OBJECTIVES
Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

Sub-Events

MSRP32A  How to Convert an Interview into a Job Offer

Participants
Candice Bookwalter, MD, PhD, Rochester, MN (Presenter) Nothing to Disclose
Fred T. Lee JR, MD, Madison, WI (Presenter) Stockholder, NeuWave Medical, Inc; Patent holder, NeuWave Medical, Inc; Board of Directors, NeuWave Medical, Inc; Patent holder, Medtronic, Inc; Inventor, Medtronic, Inc; Royalties, Medtronic, Inc

LEARNING OBJECTIVES
1) At the conclusion of this lecture, attendees should understand the different parts of the interview process, how to prepare for an interview, and strategies to maximize success during the interview day.

MSRP32B  Six Must Know Strategies for Success Every Radiology Trainee Should Master

Participants
Richard E. Sharpe JR, MD, MBA, Denver, CO, (RichSharpeJr@gmail.com) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) This presentation will allow participants at every stage of radiology training and practice to identify several key skills and strategies they can adopt to be more successful, and better accomplish their goals.

ABSTRACT

MSRP32C  Candid, Frank and Personal Job Advice from Recent Grads

Participants
Nancy J. Benedetti, MD, Greenwood Village, CO (Presenter) Nothing to Disclose
Candice Bookwalter, MD, PhD, Rochester, MN (Presenter) Nothing to Disclose
Richard E. Sharpe JR, MD, MBA, Denver, CO, (RichSharpeJr@gmail.com) (Presenter) Nothing to Disclose
Andrew K. Moriarity, MD, Grand Rapids, MI (Presenter) Nothing to Disclose
Joseph H. Yacoub, MD, Maywood, IL (Presenter) Nothing to Disclose
Case-based Review of Nuclear Medicine: PET/CT Workshop-Lymphoma/Melanoma/Sarcoma (In Conjunction with SNMMI) (An Interactive Session)

Tuesday, Dec. 1 3:30PM - 5:00PM Location: S406A

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

Participants
Janis P. O’Malley, MD, Birmingham, AL (Director) Nothing to Disclose
Samuel E. Almodovar-Reteguis, MD, Birmingham, AL (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Discuss imaging presentation and special considerations when interpreting FDG PET/CT studies for lymphoma, melanoma and sarcoma. 2) Formulate a systematic approach to interpreting PET/CT studies for this patient population. 3) Discuss pertinent correlative findings on CT for each diagnosis on a case by case basis.

ABSTRACT
Participants

Sub-Events

MSES34A  **CMR Basics - Patterns of Enhancement**

Participants
Nikhil Goyal, MD, Staten Island, NY (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Understand the basic components of a post contrast Cardiac MRI (CMRI) examination. 2) Understand the concept of myocardial nulling and its role in delayed enhancement CMRI. 3) Learn the patterns of delayed enhancement associated with ischemic and nonischemic cardiac disease.

MSES34B  **Congenital Anomalies of the Coronary Arteries with Pathologic Correlation**

Participants
Seth J. Kligerman, MD, Denver, CO (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Recognize various congenital anomalies of the coronary arteries on cross-sectional imaging. 2) Learn which anomalies are benign and which can lead to adverse cardiac events. 3) Understand how anomalies in the origin, course, and termination of the coronary arteries can lead to a abnormal perfusion of the myocardium.

MSES34C  **Cardiac CT and MRI: Seeing the Unseen**

Participants
Musturay Karcaaltincaba, MD, Ankara, Turkey, (musturayk@gmail.com) (*Presenter*) Speaker, General Electric Company; Speaker, Koninklijke Philips NV

**LEARNING OBJECTIVES**

1) To describe the cardiac CT and MRI findings that can not be seen or characterized by echocardiography and catheter angiography. 2) To depict imaging features of mild atherosclerosis, napkin ring sign, bypass grafts, interatrial septal and myocardial pathologies. 3) To elucidate our understanding of cardiac pathologies (such as fibrosis, iron overload and amyloidosis) than can be diagnosed without biopsy.
Strategies for Developing Business Leadership Skills in the Midst of Healthcare Reform Challenges

Tuesday, Dec. 1 4:30PM - 6:00PM Location: S404CD

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

Participants
Richard Duszak JR, MD, Atlanta, GA (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) To develop programs to cultivate trainee and practicing radiologist non-clinical interests in practice management, economics, and health policy, and apply newly acquired knowledge and insights into current and future practice. 2) To help radiologists at all levels in both private practice and academic medical centers understand the complex environment in which health care services are delivered and the roles and relationships of various stakeholders including professional societies, private and academic practices, hospitals and health systems, payers, governmental bodies and private sector industry. 3) To guide radiology residency programs in fulfilling new formal residency training requirements in non-interpretative skills as they pertain to healthcare economics and practice management.

ABSTRACT
As healthcare delivery systems undergo rapid and dramatic changes, the need for dynamic physician leadership in both academic and private practice settings has increased. Traditional graduate medical education curricula have often left young radiologists ill-equipped to address complex issues related to practice management, health policy and economics. Given the many leadership opportunities available for practicing radiologists, additional education and training in these areas should enhance their effectiveness as clinical and non-clinical leaders to positively impact healthcare systems through appropriate use and integration of medical imaging. This course is intended to introduce such educational opportunities at the resident, fellow, and practicing radiologist level and share the early experience of several academic and private medical centers in these pursuits.

Sub-Events

RC402A Residency Training Perspective

Participants
Falgun H. Chokshi, MD, Atlanta, GA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

RC402B Fellowship Training Perspective

Participants
Raymond W. Sze, MD, Washington, DC (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

RC402C Faculty Perspective

Participants
Frank J. Lexa, MD, Philadelphia, PA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

RC402D Private Practice Perspective

Participants
Scott M. Truhlar, MD, MBA, Coralville, IA, (smtruhlar@hotmail.com) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.
Head and Neck College Bowl! (An Interactive Session)
Tuesday, Dec. 1 4:30PM - 6:00PM Location: E450B

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

Participants
C. Douglas Phillips, MD, New York, NY (Presenter) Stockholder, MedSolutions, Inc Consultant, Guerbet SA
Richard H. Wiggins III, MD, Salt Lake City, UT (Presenter) Nothing to Disclose
Lawrence E. Ginsberg, MD, Houston, TX (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Review important head and neck imaging differentials. 2) Recognize imaging appearances of common head and neck pathologies. 3) Understand important head and neck pathologies relationships to normal anatomy. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

ABSTRACT
A fun and light-hearted review of important head and neck imaging anatomy and pathology important differentials. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

Honored Educators

Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Richard H. Wiggins III, MD - 2012 Honored Educator
Participants

Sub-Events

**RC408A  Imaging of Non-traumatic Intracranial Hemorrhage**

Participants
Diego B. Nunez JR, MD, MPH, New Haven, CT, (diego.nunez@yale.edu) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**
1) Differentiate the imaging patterns of non-traumatic intracranial hemorrhage on initial presentation. 2) Recognize opportunities for providing a more precise diagnosis based on the initial CT findings. 3) Define and recommend the best additional imaging approach for appropriate patient management.

**RC408B  Imaging of Spine Infection**

Participants
Wayne S. Kubal, MD, Tucson, AZ (Presenter) Stockholder, Stryker Corporation; Stockholder, Sarepta Therapeutics Inc; Stockholder, CVS Health Corporation

**LEARNING OBJECTIVES**
1) Understand how pathophysiology and anatomy determine the imaging appearance of spine infection. 2) Critically assess which imaging options offer the greatest sensitivity for both initial diagnosis and post treatment assessment of spine infection. 3) Be able to differentiate spine infection from common mimics most notably degenerative disease.

**RC408C  Imaging of Cervical Spine Trauma**

Participants
Stuart E. Mirvis, MD, Baltimore, MD (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**
1) Recognize circumstances in which MRI is indicated for blunt cervical spine trauma. 2) Be familiar with the spectrum of radiologic findings associated with atlanto-occipital dissociation injuries. 3) Understand similarity in appearance and methods to distinguish stable from unstable hyperflexion injuries. 4) Know association of cervical spine injury patterns with vertebral artery injury.

**ABSTRACT**

**Honored Educators**

Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Stuart E. Mirvis, MD - 2015 Honored Educator
**Interventional (An Interactive Session)**

Tuesday, Dec. 1 4:30PM - 6:00PM Location: S502AB

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

**Participants**
- Steven M. Zangan, MD, Chicago, IL *(Presenter)* Nothing to Disclose
- Rakesh C. Navuluri, MD, Chicago, IL *(Presenter)* Nothing to Disclose
- Jeffrey A. Leef, MD, Chicago, IL *(Presenter)* Nothing to Disclose

**LEARNING OBJECTIVES**

1) Recognize vascular and non-vascular conditions and their image-guided treatment in the chest, abdomen and pelvis. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.
Breast MR Imaging (An Interactive Session)

Tuesday, Dec. 1 4:30PM - 6:00PM Location: E450A

AMERICAN MEDICAL ASSOCIATION

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

Participants
Sub-Events

RC415A  Image Quality and Interpretation

Participants
Debra M. Ikeda, MD, Stanford, CA (Presenter) Consultant, F. Hoffmann-La Roche Ltd; Consultant, Bracco Group

LEARNING OBJECTIVES
1) To review standard MRI acquisition parameters recommended by ACR Breast MRI BI-RADS. 2) To review MRI Interpretation according to ACR Breast MRI BI-RADS terminology.

RC415B  MR BI-RADS 3

Participants
Debra L. Monticciolo, MD, Temple, TX (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) To review the current literature for BIRADS 3 in the MR setting. 2) To understand interpretations for which BIRADS 3 would or would not be appropriate.

ABSTRACT
Discussion will include the current literature on use of BIRADS 3, with attention to the MR setting. Cases where BIRADS 3 would be considered as well as cases not appropriate for BIRADS3 at MR will be shown.

RC415C  Challenging Cases

Participants
Sujata V. Ghate, MD, Durham, NC (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify challenging cases on breast MRI. 2) Recognize MR imaging findings of unusual breast lesions. 3) Review do's and don't of the breast MRI report. 4) Recommend appropriate management for difficult or esoteric lesions seen on MRI.

ABSTRACT
This lecture will review challenging cases on breast MRI. Participants will learn to identify MR imaging features of common breast diseases, recognize unusual and esoteric lesions, understand the importance of a clear and concise MRI report, and manage difficult cases seen on breast MRI. A total of 12 cases will be reviewed and imaging findings and appropriate management for each case will be discussed. At the conclusion of the case conference, audience participants will have the opportunity to ask questions and discuss unusual cases.
RCA35

Creating, Storing, and Sharing Teaching Files Using RSNA’s MIRC® (Hands-on)

Tuesday, Dec. 1 4:30PM - 6:00PM Location: S401AB

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

Participants
Krishna Juluru, MD, New York, NY (Moderator) Nothing to Disclose
Omer A. Awan, MD, Baltimore, MD (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Learn how easy it is to install the new and improved RSNA teaching file software with the one-click installer. 2) Learn how to create, organize, and share teaching files, create conference documents and save interesting cases for yourself, your group or your department.
Case-based Review of Pediatric Radiology (An Interactive Session)

Wednesday, Dec. 2 8:30AM - 10:00AM Location: S406A

**LEARNING OBJECTIVES**

1) To apply a systematic approach in the evaluation of pediatric diseases. 2) To identify essential imaging features of various pediatric congenital, musculoskeletal, abdominal and neurological diseases using a multimodality approach. 3) To understand and develop best imaging practice for various pediatric diseases.

**ABSTRACT**

To apply a systematic approach in the evaluation of pediatric diseases. To identify essential imaging features of various pediatric congenital, musculoskeletal, abdominal and neurological diseases using a multimodality approach. To understand and develop best imaging practice for various pediatric diseases.

**Sub-Events**

**Fetal Thoracic and Abdominal Anomalies**

Participants

Sudha A. Anupindi, MD, Philadelphia, PA (Director) Nothing to Disclose

**LEARNING OBJECTIVES**

View learning objectives under main course title.

**Pediatric Abdominopelvic Tumors**

Participants

Christopher I. Cassady, MD, Houston, TX (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

View learning objectives under main course title.

**Congenital Disorders of the Genitourinary Tract**

Participants

Tracy N. Kilborn, MBChB, Cape Town, South Africa(Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

View learning objectives under main course title.
**LEARNING OBJECTIVES**

1) Review the types of ovarian epithelial neoplasm seen on imaging. 2) Assess the risk of ovarian cancer based on imaging appearance of an adnexal lesion and clinical information. 3) Emphasize the role of MRI in further evaluation of adnexal lesions.

**ABSTRACT**

There is a spectrum of ovarian epithelial neoplasms ranging from benign to malignant. Current theories regarding the precursor lesions are debated; however, the pathway from benign epithelial neoplasm to low grade carcinoma follows an indolent course and is distinctly different from the aggressive evolution of high grade carcinoma. An understanding of the pathogenesis of low grade versus high grade ovarian epithelial neoplasms can be helpful to radiologists, when they are faced with an adnexal lesion. Identifying the imaging features suggestive of benign, intermediate and worrisome lesions can triage adnexal lesions into follow up versus treatment. The purpose of this presentation is to review the imaging features of benign, indeterminate and worrisome adnexal lesions and to discuss the appropriate follow up in each case.

**LEARNING OBJECTIVES**

1) To review MRI and US features of adenomyosis and their correlation with pathology. 2) To discuss staging and US and MRI features of endometriosis and their role in the management of this condition. 3) To familiarize imagers with US features of diverticulosis/diverticulitis and how to differentiate it from colitis.

**ABSTRACT**

Chronic pelvic pain constitutes 10–40% of gynecology visits at a total cost of 39 billion dollars/year in USA. The most common etiologies are gynecological with GI, urology and MSK conditions being the other causes. During this presentation, imaging features of adenomyosis, endometriosis, pelvic congestion, and US features of diverticulosis/diverticulitis are reviewed. Both adenomyosis and endometriosis are common conditions affecting women. They are frequently seen as an incidental finding that can be accurately evaluated by MRI and US in symptomatic patients. There is close correlation between pathology and imaging features of adenomyosis. The main role of imaging in the evaluation of endometriosis is in the staging of the disease to plan for surgery. US features of uncomplicated diverticulitis are discussed. Transvaginal US can accurately diagnose diverticulosis/diverticulitis that should be sought for in women undergoing US to evaluate for chronic pelvic pain.

**LEARNING OBJECTIVES**

1) Review embryology and discuss congenital anomalies of the bladder and ureter. 2) Classify and discuss imaging appearance of ureteric and bladder disease. 3) To discuss the protocols and imaging appearance of bladder and ureteric pathology on various modalities. 4) Review the staging of bladder and ureteric malignancies. 5) Discuss the imaging appearance of various stages of bladder and ureteric cancer. 6) Illustrate the newer techniques for imaging of bladder and ureter.

**ABSTRACT**

The ureter is an extra-peritoneal structure surrounded by fat.; The ureter is divided into three portions: the proximal ureter (upper) is the segment that extends from the ureteropelvic junction to the area where the ureter crosses the sacroiliac joint, the middle ureter courses over the bony pelvis and iliac vessels, and the pelvic or distal ureter (lower) extends from the iliac vessels to the bladder. It is a dynamic organ and not a simple conduit through which urine flows. Benign and malignant lesions can affect the ureter and these maybe due to contiguous involvement from the kidney or bladder. The ureter can be imaged by a variety of modalities including computed tomography (CT), magnetic resonance imaging (MR), direct pyelography (DP) both antegrade (AP) and retrograde (RP), nuclear medicine diuretic scan and voiding cystourethrography (VCUG). Benign lesions like endometriosis,
Ureteritis, Ureteritis cystica can affect the ureter as well. Transitional cell carcinoma in the ureter is usually diagnosed on imaging. Bladder carcinoma is the fourth most common cancer in men and women. Knowledge of imaging options and appearance is necessary for both radiologists and urologists. Transitional cell carcinoma (TCC) is the most common bladder neoplasm with squamous cell and adenocarcinoma found in less than 10% of cases; Benign lesions are uncommon but some can be suggested by their imaging appearance. Cystoscopy allows tissue diagnosis and treatment of superficial lesions. Although magnetic resonance imaging (MRI) and computed tomography (CT) both have limitations in detailing depth of muscle invasion, both have a prominent role helping to define the lesion and in staging. This presentation illustrates the role of MR and CT in evaluating bladder and ureter with a discussion of the newer techniques of MR Diffusion Weighted Imaging (DWI) and virtual cystoscopy by CT or MR.
What’s New from the American Board of Radiology

Wednesday, Dec. 2 8:30AM - 10:00AM Location: S104A

LEARNING OBJECTIVES
1) Describe ABR MOC requirements. 2) Describe methods to implement MOC into one’s practice. 3) Assess the implications of "Board Eligible" status. 4) Assess the logistics and results of ABR certifying examinations. 5) Analyze the logistics of the new IR/DR pathway.

Sub-Events

RC502B The Board Eligible Radiologist: Hiring Perspectives and Concerns

Participants
Valerie P. Jackson, MD, Tucson, AZ (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

RC502C ABR Certifying Exams in Diagnostic Radiology

Participants
Dennis M. Balfe, MD, Saint Louis, MO (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

RC502D The Alphabet Soup of MOC, CC, and SA-CME

Participants
Vincent P. Mathews, MD, Milwaukee, WI (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

RC502E IR/DR Certificate and the IR Residency

Participants
Matthew A. Mauro, MD, Chapel Hill, NC (Presenter) Data Safety Monitoring Board, BTG International Ltd; Data Safety Monitoring Board, B. Braun Melsungen AG

LEARNING OBJECTIVES
View learning objectives under main course title.
RC551A  MRI of Arthroplasty: How to Do It

Participants
Hollis G. Potter, MD, New York, NY (Presenter) Research support, General Electric Company

LEARNING OBJECTIVES
1) To become familiar with different patterns of abnormal synovial response around implants. 2) To become familiar with protocols using standardized and newer sequences which optimize tissue contrast and provide accurate diagnosis.

ABSTRACT
MRI characteristics of adverse local tissue reactions, periprosthetic infection, and component loosening will be reviewed. Characteristics of osteolysis will also be discussed, as well as additional complications of joint arthroplasty.

Active Handout:
Hollis G. Potter


RC551B  MRI of Bone Marrow: What's Normal What's Not?

Participants
Miriam A. Bredella, MD, Boston, MA, (mbredella@mgh.harvard.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Differentiate normal variations in MRI appearance of bone marrow from malignant marrow infiltrative disorders. 2) Become familiar with the MRI appearance of age-related and post-treatment changes of bone marrow.

ABSTRACT
MRI characteristics of normal bone marrow will be reviewed, including changes related to aging and therapy. Imaging examples of benign and malignant disorders affecting bone marrow will be reviewed including pitfalls in MRI interpretation of bone marrow.

RC551C  Tumors and Tumor-like Lesions of the Musculoskeletal System: Pearls and Pitfalls for the General Radiologist

Participants
Behrang Amini, MD, PhD, Houston, TX, (bamini@mdanderson.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Become familiar with the imaging appearance of common and uncommon presentations of benign and malignant musculoskeletal lesions. 2) Know how to manage indeterminate focal bone and soft tissue abnormalities.

ABSTRACT
Radiologists are often challenged by the overlap in the imaging appearance of benign and malignant musculoskeletal lesions. The imaging appearance of challenging bone and soft tissue lesions will be reviewed. Suggestions will be made for management with the aim of balancing patient safety with the burden of further investigation or intervention.
Case-based Review of Pediatric Radiology (An Interactive Session)

Wednesday, Dec. 2 10:30AM - 12:00PM Location: S406A

AMAPRA Category 1 Credits™: 1.50
ARRT Category A+ Credits: 1.50

Participants
Sudha A. Anupindi, MD, Philadelphia, PA (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) To apply a systematic approach in the evaluation of pediatric diseases. 2) To identify essential imaging features of various pediatric congenital, musculoskeletal, abdominal and neurological diseases using a multimodality approach. 3) To understand and develop best imaging practice for various pediatric diseases.

ABSTRACT
To apply a systematic approach in the evaluation of pediatric diseases To identify essential imaging features of various pediatric congenital, musculoskeletal, abdominal and neurological diseases using a multimodality approach To understand and develop best imaging practice for various pediatric diseases

Sub-Events

MSCP42A Pediatric Brain Abnormalities

Participants
Manohar M. Shroff, MD, Toronto, ON, (manohar.shroff@sickkids.ca) (Presenter) Consultant, Guerbet SA; Consultant, Magellan Health, Inc

LEARNING OBJECTIVES
View learning objectives under main course title.

MSCP42B Pediatric Sport Injuries

Participants
Kirsten Ecklund, MD, Boston, MA, (kirsten.ecklund@childrens.harvard.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

MSCP42C Pediatric Nuclear Medicine Cases

Participants
Ruth Lim, MD, Boston, MA (Presenter) Consultant, Alexion Pharmaceuticals, Inc; Officer, New England PET Imaging System

LEARNING OBJECTIVES
View learning objectives under main course title.
**MSES42 Essentials of Breast Imaging**  
**Wednesday, Dec. 2 10:30AM - 12:00PM Location: S100AB**

**BR** **DM**

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

**Participants**

**Sub-Events**

**MSES42A Update on Breast US BI-RADS**

**Participants**  
Marcela Bohm-Velez, MD, Pittsburgh, PA (Presenter) Consultant, Koninklijke Philips NV; Researcher, Siemens AG; Researcher, Dilon Technologies, Inc;

**LEARNING OBJECTIVES**

1) Discuss the need to optimize the sonographic technique and understand breast anatomy for best use of the US lexicon. 2) Discuss the descriptors that are used in assessing a lesion and the need for consistent and standardized terminology. 3) Discuss integration of US findings with mammographic, MRI and MBI studies and the subsequent management options.

**ABSTRACT**

The ACR BI-RADS for US is designed to standardize reporting, providing an organized approach to image interpretation and management. Understanding breast anatomy and optimizing the sonographic image is crucial for using the lexicon, which enables better communication of results to other physicians and their patients. This will also facilitate data collection for audits to monitor results and determine accuracy of image interpretation. Use and examples of the descriptors will be discussed.

**MSES42B Imaging the Post-Surgical Breast**

**Participants**  
Ellen B. Mendelson, MD, Chicago, IL (emendels@nm.org) (Presenter) Medical Advisory Board, Delphinus Medical Technologies, Inc; Research support, Siemens AG; Consultant, Siemens AG; Speaker, Siemens AG; Medical Advisory Board, Quantason, LLC; Consultant, Quantason, LLC;

**LEARNING OBJECTIVES**

1) Recognize postsurgical changes on mammography, US, and MRI. 2) Define the time course of posttherapy changes, which slowly resolve after radiation therapy. 3) Describe surgical and reconstructive procedures used in treatment of breast cancer.

**ABSTRACT**

**MSES42C Tomosynthesis - Is It Ready for Screening?**

**Participants**  
Fiona J. Gilbert, MD, Cambridge, United Kingdom (Presenter) Medical Advisory Board, General Electric Company; Research Grant, GlaxoSmithKline plc; Research Grant, General Electric Company

**LEARNING OBJECTIVES**

1) To learn about the evidence from retrospective studies for screening with Digital Breast Tomosynthesis. 2) To learn about the evidence from prospective studies for screening with Digital Breast Tomosynthesis. 3) To appreciate the information that is still required before adoption into routine screening.
RCA42

Creating, Storing, and Sharing Teaching Files Using RSNA's MIRC® (Hands-on)

Wednesday, Dec. 2 10:30AM - 12:00PM Location: S401AB

ED IN

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

Participants
Krishna Juluru, MD, New York, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Learn how to install the RSNA MIRC teaching file. 2) Demonstrate the ability to add new studies and create teaching files. 3) Share teaching file cases with other MIRC servers and other users.

ABSTRACT
Case-based Review of US (An Interactive Session)

Wednesday, Dec. 2 1:30PM - 3:00PM Location: S406A

VA IR US

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

Participants
Deborah J. Rubens, MD, Rochester, NY (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) Recognize the diverse applications of ultrasound throughout the body and when it provides the optimal diagnostic imaging choice. 2) Understand the fundamental interpretive parameters of ultrasound contrast enhancement and its applications in the abdomen. 3) Know the important factors to consider when choosing ultrasound vs CT for image guided procedures and how to optimize ultrasound for technical success.

ABSTRACT
Ultrasound is a rapidly evolving imaging modality which has achieved widespread application throughout the body. In this course we will address the major anatomic areas of ultrasound use, including the abdominal and pelvic organs, superficial structures and the vascular system. Challenging imaging and clinical scenarios will be emphasized to include the participant in the decision-making process. Advanced cases and evolving technology will be highlighted, including the use of ultrasound contrast media as a problem solving tool, and the appropriate selection of procedures for US-guided intervention.

Sub-Events

MSCU41A Problem Solving with Contrast Enhanced Ultrasound

Participants
Stephanie R. Wilson, MD, Calgary, AB (Presenter)
Research Grant, Lantheus Medical Imaging, Inc; Equipment support, Siemens AG; Equipment support, Koninklijke Philips NV

LEARNING OBJECTIVES
1) Attendees will appreciate the multiple varied applications for CEUS in the abdomen. 2) They will recognize the value of CEUS as a real time procedure with exquisite sensitivity to its contrast agent allowing for superior detection of arterial phase vascularity. 3) They will realize the safety of CEUS with no requirement for ionizing radiation, and no nephrotoxicity for evaluation of any problems requiring contrast enhancement in those with renal failure. 4) They will understand the fundamentals for interpretation of contrast enhancement patterns for the noninvasive diagnosis of focal liver masses and other pathology.

ABSTRACT
Participants
Michael D. Beland, MD, Providence, RI (Presenter)
Consultant, Hitachi, Ltd

LEARNING OBJECTIVES
1) Understand factors to consider when choosing ultrasound versus CT as a modality for image guidance. 2) Review the potential challenges and advantages of ultrasound for procedure guidance. 3) Demonstrate the variety of cases for which ultrasound can be used to perform image guided procedures and learn some techniques for maximizing success.

ABSTRACT
Image-guided procedures are commonly performed. There are several important considerations when selecting an appropriate imaging modality to guide the procedure. Ultrasound has several advantages over CT but there are also limitations. These advantages and disadvantages will be reviewed, including various factors to consider when evaluating a case for a potential procedure. When ultrasound is used, there are techniques which may offer increased likelihood of success or decreased procedural time. Through multiple case presentations, this session will review the considerations and techniques for successful ultrasound guided interventions.

MSCU41B Vascular Ultrasound Update

Participants
Laurence Needleman, MD, Philadelphia, PA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.
LEARNING OBJECTIVES

1) Contrast the differences between pediatric and adult epidural intracranial hemorrhages. 2) Develop an expanded understanding of traumatic pediatric subdural hemorrhage. 3) Identify the clinical significance and imaging characteristics of subdural hygroma. 4) Describe the CT and MRI features of subdural hemorrhage arising from abusive and accidental trauma. 5) Identify pediatric subarachnoid hemorrhage, recognize its significance, and differentiate it from pseudo-subarachnoid hemorrhage.

ABSTRACT

The presence of post-traumatic hemorrhage within the pediatric intracranial extra-axial compartments should be viewed as a proxy for underlying brain injury. This live RSNA activity will review the coverings of the brain and the compartments that may be involved in accumulating post-traumatic hemorrhage. The session will address hemorrhage within the epidural space, subdural compartment, and subarachnoid space. The focus will be upon hemorrhages within the subdural compartment, their clinical significance in the pediatric population, origin, imaging characteristics, and the features of subdural hemorrhage more commonly observed with accidental and inflicted head trauma. The complimentary nature of non-enhanced CT (NECT) and MRI in characterizing and estimating age of the pediatric subdural hemorrhage will be emphasized. The value of serial imaging will be discussed.

LEARNING OBJECTIVES

1) Interpret chest radiographs in newborns with congenital pulmonary abnormality. 2) Plan further imaging assessment in the newborn with congenital pulmonary abnormality. 3) Recognise imaging findings and plan further imaging investigation in an older child with congenital pulmonary abnormality.

ABSTRACT

This session will address the radiographic findings and further imaging in congenital chest abnormalities including cystic adenomatoid malformation, congenital lobar emphysema and different forms of sequestration. The imaging findings of tracheo-esophageal fistula, of chylothorax and of different types of diaphragmatic hernia will also be addressed. There will be an emphasis on the imaging findings that affect management and some controversies around imaging and management will be reviewed.

LEARNING OBJECTIVES

1) Describe the most common ventral wall abnormalities in neonates, including omphalocele, gastroschisis, bladder extrophy, and prune-belly syndrome. 2) Compare and contrast the clinical characteristics of these defects. 3) Identify the imaging features of each of these ventral wall abnormalities. 4) Understand the treatment of these defects, and be familiar with their imaging implications in older children.

ABSTRACT

Neonatal ventral wall abnormalities encompass a broad group of rare congenital defects such as omphalocele, gastroschisis, bladder extrophy, and prune-belly syndrome. Although these congenital abnormalities are varied in terms of pathophysiology, clinical findings, and treatment, their similarities allow them to be easily confused by radiologists. This is especially problematic as children with ventral wall abnormalities have very high rates of associated gastrointestinal, musculoskeletal, urogenital, and cardiovascular problems, and so often require fairly extensive medical imaging expertise. This activity will compare and contrast the clinical characteristics of ventral wall abnormalities, illustrate the important imaging features of each, and familiarize the attendee with how these abnormalities are treated.
Case-based Review of US (An Interactive Session)

Wednesday, Dec. 2 3:30PM - 5:00PM Location: S406A

Participants
Deborah J. Rubens, MD, Rochester, NY (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) Recognize the diverse applications of ultrasound throughout the body and when it provides the optimal diagnostic imaging choice. 2) Understand the fundamental interpretive parameters of ultrasound contrast enhancement and its applications in the abdomen. 3) Know the important factors to consider when choosing ultrasound vs CT for image guided procedures and how to optimize ultrasound for technical success.

ABSTRACT
Ultrasound is a rapidly evolving imaging modality which has achieved widespread application throughout the body. In this course we will address the major anatomic areas of ultrasound use, including the abdominal and pelvic organs, superficial structures and the vascular system. Challenging imaging and clinical scenarios will be emphasized to include the participant in the decision-making process. Advanced cases and evolving technology will be highlighted, including the use of ultrasound contrast media as a problem solving tool, and the appropriate selection of procedures for US-guided intervention.

Active Handout: Deborah J. Rubens
http://abstract.rsna.org/uploads/2015/15002752/Active MSCU42.pdf

Sub-Events

MSCU42A   Challenging Abdominal Cases

Participants
Oksana H. Baltarowich, MD, Philadelphia, PA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT
View abstract under main course title.

MSCU42B   Acute Pelvic Pain

Participants
Leslie M. Scoutt, MD, New Haven, CT, (leslie.scottt@yale.edu) (Presenter) Consultant, Koninklijke Philips NV

LEARNING OBJECTIVES
View learning objectives under main course title.

Honored Educators
Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Leslie M. Scoutt, MD - 2014 Honored Educator

MSCU42C   Superficial Ultrasound Imaging: Head to Toe

Participants
Deborah J. Rubens, MD, Rochester, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.
LEARNING OBJECTIVES

1) Categorize cystic neck masses in adults and children. 2) Indicate specific differentiating diagnostic criteria.

ABSTRACT

A nonenhancing, fluid-filled mass is a common finding on cross-sectional imaging of the neck. The location of the mass and its relationship to surrounding structures are critical for categorization of the mass and for providing a specific diagnosis. While congenital causes of cystic neck masses are often discussed, they are less frequent than infectious, developmental, or neoplastic causes. The purpose of this session is to review common and uncommon causes of cystic neck masses and to review the imaging characteristics that differentiate them. Potential pitfalls of imaging will be emphasized.

Active Handout: Barton F. Branstetter

MSES44B  Adult Orbital Neoplasms

LEARNING OBJECTIVES

1) Understand the relevant compartmental anatomy of the orbit. 2) Differentiate the characteristic imaging features of benign and malignant adult orbital neoplasms. 3) Define the role of cross-sectional imaging in the management of orbital neoplasms. 4) Review non-neoplastic mimics of orbital neoplasms.

ABSTRACT

Cross-sectional imaging complements ophthalmologic examination in the evaluation of orbital neoplasms. A relevant succinct differential diagnosis for an orbital mass can be generated based on the morphology, location and extent of a lesion. MRI is critical for treatment planning by characterizing the orbital compartments involved and assessing for intracranial and perineural spread of disease. The purpose of this session is to review the characteristic imaging features of benign and malignant orbital neoplasms. Non-neoplastic processes that can mimic orbital neoplasms will also be discussed. Imaging findings that affect management will be emphasized.

Active Handout: Tanya Jaitley Rath
http://abstract.rsna.org/uploads/2015/15001763/MSES44B AA 12.2.15 FINAL RSNA ORBITS.pdf

MSES44C  Imaging Dementia and Memory Loss

LEARNING OBJECTIVES

1) Describe the minimum requirements for an MRI protocol to image patients suspected of dementia. 2) Read scans from a memory clinic in a standardized way, using available rating scales. 3) Construct a structured radiological report with useful recommendations for the referring clinician.

Active Handout: Meike Willemijn Vernooij
Participants
Paul J. Chang, MD, Chicago, IL, (pchang@radiology.bsd.uchicago.edu) (Presenter) Co-founder, Stentor/Koninklijke Philips NV; Researcher, Koninklijke Philips NV; Medical Advisory Board, lifeIMAGE Inc; Medical Advisory Board, Merge Healthcare Incorporated
Gregory L. Katzman, MD, Chicago, IL (Presenter) Nothing to Disclose
Neety Panu, MD, FRCPC, Thunder Bay, ON (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will be introduced to a series of radiology case studies via an interactive team game approach designed to encourage "active" consumption of educational content. 2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time. 3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.
**Case-based Review of Neuroradiology (An Interactive Session)**

Thursday, Dec. 3 8:30AM - 10:00AM Location: S100AB

**HN NR**

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

**Participants**
Pina C. Sanelli, MD, Manhasset, NY (Director) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Improve basic knowledge and skills relevant to clinical practice. 2) Practice formulating a differential diagnosis for pathologic diseases involving the brain, spine, head and neck. 3) Apply principles of critical thinking to challenging diagnostic imaging cases.

**ABSTRACT**

The learning objectives are to enable attendees to: 1. Improve basic knowledge and skills relevant to clinical practice. 2. Practice formulating a differential diagnosis for pathologic diseases involving the brain, spine, head and neck. 3. Apply principles of critical thinking to challenging diagnostic imaging cases.

**Sub-Events**

**MSCN51A  Adult Brain**

Participants
Pamela W. Schaefer, MD, Boston, MA (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Recognize the key neuroimaging characteristics of various adult cerebral disease entities. 2) Use pertinent imaging features and key clinical factors to formulate a pertinent differential diagnosis for various adult cerebral pathologies. 3) Discuss the utility of various imaging techniques for evaluating various adult cerebral disorders. 4) Review pertinent anatomy as it pertains to common adult cerebral pathologies.

**MSCN51B  Adult Spine**

Participants
Gordon K. Sze, MD, New Haven, CT (Presenter) Investigator, Remedy Pharmaceuticals, Inc

**LEARNING OBJECTIVES**

1) To analyze findings on imaging examinations of the spine. 2) To characterize unusual findings and provide a differential diagnosis.

**ABSTRACT**

Lesions of the spine and of the spinal cord can be divided into broad categories. Use of an organized approach to the analysis of difficult cases will allow one to refine a differential diagnosis. Cord lesions, in particular, often superficially resemble one another. By exploring and applying the broad categories of diseases that affect the cord, subtle differences can be brought out.

**MSCN51C  Adult Head and Neck**

Participants
Hugh D. Curtin, MD, Boston, MA (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) To use imaging findings to differentiate head and neck lesions that can occur in similar locations. 2) To identify and evaluate imaging landmarks that determine changes in treatment.
MSCS51 Case-based Review of Musculoskeletal Radiology (An Interactive Session)

Thursday, Dec. 3 8:30AM - 10:00AM Location: S406A

LEARNING OBJECTIVES

1) Identify the application of basic anatomic, pathologic, and physiologic principles to specific disease processes that affect the muscles, shoulder, elbow, wrist and hand. 2) Illustrate using case examples of several important disease processes that affect these regions, using several imaging methods and emphasizing the value of each. 3) Present the major teaching points and differential diagnostic considerations for each of the chosen cases and, when appropriate, clarify the importance of early accurate diagnosis.

ABSTRACT

Accurate diagnosis of many disorders that affect muscles, shoulder, elbow, wrist and hand can be accomplished with basic or advanced imaging methods, or both. A series of cases will be used to illustrate a few of these disorders, with attention to the most appropriate imaging protocol, the salient imaging findings, the anatomic and pathophysiologic factors that explain the findings, and the important differential.

Participants

Lynne S. Steinbach, MD, San Francisco, CA, (lyne.steinbach@ucsf.edu) (Director) Nothing to Disclose

Sub-Events

MSCS51A Muscle

Participants

Andrew J. Grainger, MRCP, FRCR, Leeds, United Kingdom (Presenter) Speaker, General Electric Company; Equipment support, Siemens AG;

LEARNING OBJECTIVES

View learning objectives under main course title.

Handout: Jenny T. Bencardino


Honored Educators

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Jenny T. Bencardino, MD - 2014 Honored Educator

MSCS51B Shoulder

Participants

Jenny T. Bencardino, MD, New York, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

MSCS51C Elbow

Participants

Kathryn J. Stevens, MD, Menlo Park, CA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

MSCS51D Wrist and Hand

Participants

Leon Lenchik, MD, Winston-Salem, NC, (llenchik@wakehealth.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.
**How a Dictation Becomes a Dollar**

**Participants**
Ezequiel Silva III, MD, San Antonio, TX, (zekesiiva3@gmail.com) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**
1) Gain an understanding of each step in the payment process including diagnosis and procedural coding, as well as valuation. 2) Apply these concepts to future alternative payment models. 3) Explore financial performance indicators for billing entities and how these indicators are used to evaluate our internal and external billing processes. 4) Discuss questions which these concepts should prompt when pursuing new practice opportunities.

**ABSTRACT**
The ability to navigate future payment models will require basic knowledge of the manner in which radiology services are paid within current systems. This session will take the participant through every step in the payment process and focus on how each element of the interpretive dictation impacts the payment process. Focus will be given to diagnosis and procedural coding and how that translates to medical necessity and eventual valuation. An introduction to alternative payment models will follow and the session will close with a glimpse at financial performance indicators every radiologists should understand.

**Handout:** Ezequiel Silva

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**Radiologist Value Based Payments: Myth or Reality?**

**Participants**
Giles W. Boland, MD, Boston, MA (Presenter) Principal, Radiology Consulting Group; Royalties, Reed Elsevier

**LEARNING OBJECTIVES**
1) To understand the changing payment landscape and how it could impact radiology revenue streams. Quality, safety and patient experience factors will likely factor into value based payments. This section will focus on the impending transformation that will be likely occur and what strategies radiologists can employ to take advantage.

**ABSTRACT**

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**Fundamentals of CT Data Acquisition**

**Participants**
Sandra S. Halliburton, PhD, Highland Heights, OH, (sandra.halliburton@philips.com) (Presenter) Employee, Koninklijke Philips NV

**LEARNING OBJECTIVES**
1) Identify the basic hardware components of a CT scanner. 2) Understand the standard methods for acquiring CT data. 3) Describe important user-defined parameters for data acquisition. 4) Select appropriate data acquisition parameters based on patient characteristics and clinical indication.

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**Radiology Malpractice: Pitfalls to Avoid**

**Participants**
Richard Duszak JR, MD, Atlanta, GA, (richard.duszak@emory.edu) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**
1) Articulate the four criteria necessary for a successful malpractice lawsuit. 2) Outline factors contributing to a “missed” imaging diagnosis. 3) Describe opportunities to enhance communication with referring physicians and patients so as to improve care and minimize malpractice exposure.
**PQI Education - How to Do It**

Thursday, Dec. 3 8:30AM - 10:00AM Location: S403B

**Learning Objectives**

1) Understand basic approaches to teaching practicing radiologists and trainees the core elements of Practice Quality Improvement.
2) Be prepared to set up and run a basic PQI education program for a local radiology department or practice.

**Abstract**

Completion of Practice Quality Improvement (PQI) projects has now become a requirement of the American Board of Radiology (ABR) Maintenance of Certification program. PQI education is also now required by the Accreditation Council for Graduate Medical Education as part of residency training, and PQI-related material is now included in the ABR's core, certifying, and recertifying examinations. In this session, the authors will share how they provide didactic and practical training in QI methodology for both practicing radiologists and trainees within their departments.

**Sub-Events**

**RC602A**  
**A Team-based, Project-based Improvement Education Program**

**Participants**

David B. Larson, MD, MBA, Los Altos, CA (Moderator) Intellectual property license agreement, Bayer AG; Potential royalties, Bayer AG

**Learning Objectives**

1) Be familiar with major elements of a team-based, project-based quality improvement education program. 2) Understand the major elements required to replicate such a program at one's own institution.

**Abstract**

We believe that the best way to learn quality improvement is to complete a successful improvement project in a structured mentored environment, in conjunction with a dedicated didactic curriculum. At our institution, we have developed a 20-week course in which multidisciplinary teams solve meaningful problems to significantly improve performance in the department. Projects are strongly supported by senior leadership, individuals are assigned specific team roles, knowledgeable coaches are assigned to each team, and education is delivered in a 'flipped classroom' model.

**Honored Educators**

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**RC602B**  
**Teaching Quality Improvement Essentials to Future Leaders**

**Participants**

James R. Duncan, MD, PhD, Saint Louis, MO, (duncanj@mrr.wustl.edu) (Presenter) Nothing to Disclose

**Learning Objectives**

1) Define quality as it relates to key aspects of their daily work. 2) Describe three essential steps common to any data-driven quality improvement initiative. 3) Design a basic curriculum for teaching quality improvement skills.

**Abstract**

Radiology’s future leaders must learn process improvement techniques so that they can better lead frontline teams as they conduct quality/safety improvement projects. With support from the RSNA Research and Education Foundation, we created a Radiology Improvement Leader Training Course. The course is now in its fourth year. It is based on the Institute for Healthcare Improvement’s 9 month long Improvement Advisor program. This session will review the design and delivery of that course as well as other strategies for teaching quality improvement techniques.

**RC602C**  
**Basics of the ABR/ACGME Curriculum for Quality Improvement and Non-interpretative Skills**

**Participants**

Gloria M. Salazar, MD, Boston, MA (Presenter) Nothing to Disclose

**Learning Objectives**

1) Identify the basic elements of Quality Improvement Training for residents required by the ABR. 2) Understand the basic elements of non-interpretative skills training required by the ACGME.
1) Identify the basic elements of Quality Improvement Training for residents required by the ABR. 2) Understand key principles of the CLER pathways to excellence in order to promote physician education in patient quality and safety.

ABSTRACT
In addition to clinical expertise, radiologists will require to have effective knowledge of quality improvement (QI) methods in order to deliver safe and high-quality patient care. The need for QI skills has been emphasized by the American Board of Radiology (ABR) non-interpretative curriculum for residents. In addition, through the Clinical Learning Environment Review (CLER) Pathways to Excellence Program, the ACGME endorses training in QI and patient safety as an integral part of the curriculum to prepare healthcare providers on how to address issues related to quality of care.
A Case-based Audience Participation Session (Genitourinary) (An Interactive Session)

Thursday, Dec. 3 8:30AM - 10:00AM Location: E352

GU

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

Participants
Paul J. Chang, MD, Chicago, IL, (pchang@radiology.bsd.uchicago.edu) (Coordinator) Co-founder, Stentor/Koninklijke Philips NV; Researcher, Koninklijke Philips NV; Medical Advisory Board, lifeIMAGE Inc; Medical Advisory Board, Merge Healthcare Incorporated
William W. Mayo-Smith, MD, Boston, MA (Presenter) Author with royalties, Reed Elsevier; Author with royalties, Cambridge University Press
Andrea G. Rockall, MRCP, FRCR, London, United Kingdom (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will be introduced to a series of Genitourinary case studies via an interactive team game approach designed to encourage "active" consumption of educational content. 2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various Genitourinary case challenges; participants will be able to monitor their individual and team performance in real time. 3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

ABSTRACT
The extremely popular audience participation educational experience is back! GU Diagnosis Live is an expert-moderated session featuring a series of interactive Genitourinary case studies that will challenge radiologists’ diagnostic skills and knowledge. Building on last year’s successful Diagnosis Live premiere, GU Diagnosis Live is a lively, fast-paced game format: participants will be automatically assigned to teams who will then use their personal mobile devices to test their knowledge of GU radiology in a fast-paced session that will be both educational and entertaining. After the session, attendees will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance.
**RC615**

**BI-RADS (An Interactive Session)**

Thursday, Dec. 3 8:30AM - 10:00AM Location: E450A

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

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**Participants**

**Sub-Events**

**RC615A**  
**BI-RADS: Mammography**

Participants  
Edward A. Sickles, MD, San Francisco, CA (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Understand and use the new approach to classifying breast density. 2) Properly use current BI-RADS assessment categories. 3) Report discordances between assessment category and management recommendation.

**RC615B**  
**Ultrasound**

Participants  
Ellen B. Mendelson, MD, Chicago, IL (*Presenter*) Medical Advisory Board, Delphinus Medical Technologies, Inc; Research support, Siemens AG; Consultant, Siemens AG; Speaker, Siemens AG; Medical Advisory Board, Quantason, LLC; Consultant, Quantason, LLC;

**LEARNING OBJECTIVES**

At the conclusion of this session on BI-RADS for US, learners will be able to 1. Understand inseparability of image quality and interpretability. 2. Assess breast masses using a trio of feature categories: shape, margin, orientation. 3. Apply the principle of multiple benign masses to address low PPV’s of breast US. 4. Recognize architectural distortion and other Associated Features.

**ABSTRACT**

**RC615C**  
**MRI**

Participants  
Elizabeth A. Morris, MD, New York, NY (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Understand the new MRI BI-RADS® descriptors including background parenchymal enhancement (BPE). 2) Properly apply the Final Assessment categories, particularly BI-RADS® 0 for MRI. 3) Apply the audit recommendations to your breast MRI practice.
**Medical Physics 2.0: Magnetic Resonance Imaging**

**Thursday, Dec. 3 8:30AM - 10:00AM Location: E451A**

**Participants**
- Ehsan Samei, PhD, Durham, NC (Director) Nothing to Disclose
- Douglas E. Pfeiffer, MS, Boulder, CO (Director) Nothing to Disclose

**Sub-Events**

**RC621A** Magnetic Resonance Imaging Perspective

**Participants**
- Douglas E. Pfeiffer, MS, Boulder, CO (Presenter) Nothing to Disclose

**Learning Objectives**
1) Understand the history and development of magnetic resonance imaging equipment. 2) Understand the impact of equipment development on testing protocols. 3) Understand the requirements for medical physics support in image quality and safety.

**Abstract**
Magnetic resonance imaging equipment has developed significantly since its inception. Field strength increases and technology development increase the complexity of the equipment and the need for medical physics and MRI scientist support. This talk will briefly introduce the developments that have taken place and discuss the impact that this development has had on testing and support.

**RC621B** Magnetic Resonance Imaging 1.0

**Participants**
- Ronald Price, PhD, Nashville, TN (Presenter) Nothing to Disclose

**Learning Objectives**
1) Review the image quality metrics that are currently used as part of an MRI system performance report. 2) Discuss how the medical physicist can assist in the development and evaluation of imaging sequences used as part of clinical protocols. 3) To review items that should be included as part of an MRI safety survey. 4) Discuss the steps necessary for establishing and maintaining a routine quality assurance program. 5) Review aspects of AAPM Report No. 100 regarding acceptance testing of new MRI systems. 6) Review modality and system specific requirements for MRI accreditation.

**Abstract**
MRI 1.0: Magnetic Resonance Imaging Ronald R. Price The purpose of this presentation is to review the current role of the medical physicist in clinical Magnetic Resonance Imaging (MRI). The discussion will first discuss MRI acceptance testing with reference to the recommendations of AAPM Report No. 100 and will specifically include items that should be part of both the initial and annual MRI safety survey. This discussion will be followed by a review of the image quality metrics that are currently used as part of an MRI system performance report as well as how the medical physicist may go about assisting in the development and evaluation of imaging sequences used as part of clinical protocols. The presentation will also discuss the steps necessary for establishing and maintaining a routine quality assurance program with emphasis on the necessity of establishing a strong working relationship with the MRI quality assurance technologist. There will also be a review of the system specific requirements for MRI accreditation.

**RC621C** Magnetic Resonance Imaging 2.0

**Participants**
- David R. Pickens III, PhD, Nashville, TN (Presenter) Stockholder, Johnson & Johnson

**Learning Objectives**
1) Identify requirements for improving quality assurance and compliance tools for advanced and hybrid MRI systems. 2) Identify the need for new quality assurance metrics and testing procedures for advanced systems. 3) Identify new hardware systems and new procedures needed to evaluate these systems. 4) Undergraduate safety concerns for personnel and patients from advanced systems. 5) Recognize the importance of the medical physicist in the clinical testing, safety evaluations, and use of these systems.

**Abstract**
This talk will look into the future of clinical MR imaging and what the clinical medical physicist will need to be doing as the technology of MR imaging evolves. Many of the measurement techniques used today will need to be expanded to address the advent of higher field imaging systems and dedicated imagers for specialty applications. Included will be the need to address quality assurance and testing metrics for multi-channel MR imagers and hybrid devices such as MR/PET systems. New pulse sequences and acquisition methods, increasing use of MR spectroscopy, quantitative imaging, and real-time guidance procedures will place the burden on the medical physicist to define and use new tools to properly evaluate these systems, but the clinical applications must be understood so that these tools are used correctly. Finally, new rules, evolving clinical requirements, new safety concerns, and changing regulations will mean that the medical physicist must actively work to keep her/his sites compliant and must work closely with physicians to ensure best performance of these systems while ensuring the best patient care.
RC623

MR Safety I
Thursday, Dec. 3 8:30AM - 10:00AM Location: S105AB

NR MR PH SQ

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

FDA Discussions may include off-label uses.

Participants
Joel P. Felmlee, PhD, Rochester, MN (Director) Nothing to Disclose

Sub-Events

RC623A MRI Safety - Rules, Regulations, and Concepts

Participants
Karl Vigen, PhD, Madison, WI (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Understand safety issues in MRI, particularly those caused by the main magnetic field, magnetic field gradients, and transmit RF. 2) Understand guidance from the ACR, and governmental regulations designed to address these issues. 3) Describe the importance of an MR Safety program including comprehensive patient screening in the clinical setting. 4) Briefly address safety issues regarding MRI contrast agents.

RC623B MRI Safety of Deep Brain and Other Simulators

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

LEARNING OBJECTIVES
1) Describe various types of neurostimulators and their clinical applications. 2) Understand the underlying MR physics associated with the risks of scanning patients with neurostimulators. 3) Learn the precaution steps to ensure the safety of the patient with neurostimulators during MR scanning.

ABSTRACT

The demands and applications for neurostimulators continue to increase as the technology advances. MRI is an important diagnostic tool for postoperative evaluation and potential future workup. The presence of the neurostimulator poses potential safety risks in the MR scanning environment. By observing certain precautions, MRI can be performed with an extremely low risks. It is important to follow the manufacturers' MRI guidelines to ensure the safety of the patients and continuous functioning of the device.
Case-based Review of Neuroradiology (An Interactive Session)

Thursday, Dec. 3 10:30AM - 12:00PM Location: S100AB

HN NR PD

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

Participants
Pina C. Sanelli, MD, Manhasset, NY (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) Improve basic knowledge and skills relevant to clinical practice. 2) Practice formulating a differential diagnosis for pathologic diseases involving the brain, spine, head and neck. 3) Apply principles of critical thinking to challenging diagnostic imaging cases.

ABSTRACT
The learning objectives are to enable attendees to: 1. Improve basic knowledge and skills relevant to clinical practice.2. Practice formulating a differential diagnosis for pathologic diseases involving the brain, spine, head and neck.3. Apply principles of critical thinking to challenging diagnostic imaging cases.

Sub-Events

MSCN52A Pediatric Brain

Participants
Tina Y. Poussaint, MD, Boston, MA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) To select the appropriate modality or modalities in evaluating a suspected or diagnosed case of pediatric CNS disease with focus on MR imaging. 2) To review key MR imaging features of pediatric brain diseases. 3) To evaluate neuroimaging of pediatric CNS disease as it relates to understanding the developing brain in childhood.

ABSTRACT
Pediatric brain diseases will be discussed in a case based format.

MSCN52B Pediatric Spine

Participants
Christopher G. Filippi, MD, Grand Isle, VT, (cfilippi@nshs.edu) (Presenter) Research Consultant, Regeneron Pharmaceuticals, Inc; Research Consultant, Syntactx

LEARNING OBJECTIVES
1) Identify the basic anatomic, physiologic and pathologic features of diseases affecting the pediatric spine. 2) Identify the key imaging features of various common pediatric spine diseases. 3) Recognize common patterns for spine and spinal cord pathology and organize these patterns into categories of diseases processes.

ABSTRACT
Common pediatric spine and spinal cord diseases will be discussed in a case-based format.

MSCN52C Pediatric Head and Neck

Participants
Laurie A. Loevner, MD, Gladwyne, PA (Presenter) Stockholder, General Electric Company; Stockholder, Pfizer Inc; Stockholder, Merck & Co, Inc; Stockholder, Johnson & Johnson; Stockholder, Angen Inc; Stockholder, GlaxoSmithKline plc

LEARNING OBJECTIVES
1) Identify the salient imaging features of common pathologies of the pediatric head and neck. 2) Identify pertinent anatomy in the neck and skull base through the illustration of head and neck pathology. 3) Recognize patterns for disease that allow a succinct differential diagnosis. 4) Apply radiologic findings to identify next appropriate steps in patient work-up.
LEARNING OBJECTIVES

1) Identify the application of basic anatomic, pathologic, and physiologic principles to tumors as well as specific disease processes that affect the knee, hip, ankle and foot. 2) Illustrate using case examples of several important disease processes that are characteristic of the chosen topics, using several imaging methods and emphasizing the value of each. 3) Present the major teaching points and differential diagnostic considerations for each of the chosen cases and, when appropriate, clarify the importance of early accurate diagnosis.

ABSTRACT

Accurate diagnosis of many disorders that affect the knee, hip, ankle and foot as well as musculoskeletal tumors can be accomplished with basic or advanced imaging methods, or both. A series of cases will be used to illustrate a few of these disorders, with attention to the most appropriate imaging protocol, the salient imaging findings, the anatomic and pathophysiologic factors that explain the findings, and the important differential

Sub-Events

MSCS52A  Tumor

Participants
Mark J. Kransdorf, MD, Phoenix, AZ (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

ABSTRACT

MSCS52B  Ankle and Foot

Participants
Donald L. Resnick, MD, San Diego, CA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

MSCS52C  Knee

Participants
William E. Palmer, MD, Boston, MA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

View learning objectives under main course title.

MSCS52D  Hip

Participants
Christian W. Pfirrmann, MD, MBA, Forch, Switzerland (Presenter) Advisory Board, Siemens AG; Consultant, Medtronic, Inc

LEARNING OBJECTIVES

View learning objectives under main course title.
**MSES52**

**Essentials of Trauma Imaging**

Thursday, Dec. 3 10:30AM - 12:00PM Location: S406B

**Participants**

**Sub-Events**

**MSES52A  Cervical Spine Trauma**

Participants

Peter J. MacMahon, MD, Dublin, Ireland, (pmacmahon@mater.ie) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Identify the stabilizing anatomical structures of the cervical spine. 2) Appraise the indications for the various cervical spine imaging modalities. 3) Classify cervical spinal injuries based on the mechanism of injury and stability. 4) Differentiate the most common cervical spine injuries. 5) Detect subtle soft tissue and bony injuries of the cervical spine.

**MSES52B  A Simplified Approach to Imaging Acetabular Fractures**

Participants

Ustun Aydingoz, MD, Ankara, Turkey, (ustunaydingoz@yahoo.com) (Presenter) Speaker, AbbVie Inc; Spouse, Stockholder, Edita Medical Writing Editing Ltd; Spouse, Employee, Edita Medical Writing Editing Ltd;

**LEARNING OBJECTIVES**

1) Identify the imaginary lines on radiographs to determine the presence of an acetabular fracture. 2) List five most common acetabular fractures that comprise approximately 90% of all. 3) Apply an algorithm to detect the five most common acetabular fractures on radiographs and/or CT. 4) Explain the most relevant information for the clinician regarding imaging assessment of acetabular fractures.

**ABSTRACT**

Imaging plays an indispensable role in detecting and classifying acetabular fractures. This live activity will focus on: A) identifying acetabular fractures on radiographs and CT, B) using an algorithm to classify the five most common acetabular fractures (that comprise approximately 90% of all), and C) mentioning clinically relevant points on imaging reports to help decision-making for better management of the patient's condition.

**Handout:** Ustun Aydingoz


**MSES52C  Blunt Trauma of Lung, Pleura, Airways, and Chest Wall**

Participants

Guillermo P. Sangster, MD, Shreveport, LA, (gsangs@lsuhsc.edu) (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Substantiate the advantages of multidetector computed tomography (MDCT) over Chest x-ray for the initial screening of chest trauma. 2) Identify the MDCT imaging findings of the non-vascular traumatic thoracic injuries.

**ABSTRACT**

Chest radiography has been the traditional screening technique to evaluate traumatic thoracic injuries. The information obtained is usually sub optimal for the diagnosis of non-vascular thoracic injuries. The benefits of MDCT for its diagnosis are discussed in this live activity. Images from our level I trauma center database are shown, including: A) Thoracic wall injuries: diaphragmatic rupture, sternum and scapular fractures, sterno-clavicular dislocation and flail chest. B) Pleuro-pulmonary injuries: contusion, laceration, hemeiation, pneumothorax, and hemothorax. C) Intrathoracic traquio-bronchial laceration.
MSCAS1
Case-based Review of the Abdomen (An Interactive Session)
Thursday, Dec. 3 1:30PM - 3:00PM Location: S406A

Participants
Douglas S. Katz, MD, Mineola, NY, (dkatz@winthrop.org) (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) To review a series of clinically relevant, abdominal imaging cases, with audience participation. 2) To review important concepts and potential pitfalls of: the liver on sonography; the acute abdomen on US, CT, and MR; liver transplants on multi-modality imaging; genitourinary imaging; and trauma imaging 3) To provide take home points for the audience based on specific actual case material which was instructional or problematic for the presenters.

ABSTRACT

Sub-Events
MSCAS1A  Hepatic Tumor Imaging

Participants
Puneet Bhargava, MD, Shoreline, WA (Presenter) Editor, Reed Elsevier

LEARNING OBJECTIVES
1) Review imaging appearances of common hepatic tumors. 2) Review key imaging findings that aid in differential diagnosis.

ABSTRACT

Honored Educators

Presenters on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Puneet Bhargava, MD - 2015 Honored Educator

MSCAS1B  Abdominal Trauma Imaging

Participants
Savvas Nicolaou, MD, Vancouver, BC (Presenter) Institutional research agreement, Siemens AG

LEARNING OBJECTIVES
1) Review the technique and protocols, with an emphasis on MDCT, for imaging of blunt and penetrating abdominal and pelvic trauma. 2) Demonstrate examples of the spectrum of injuries and the accompanying management associated with abdominal trauma, including hepatic and hepatobiliary (gallbladder) injuries, bowel and mesenteric injuries, and pelvic injuries including bladder and vascular injuries. 3) Demonstrate significance of arterial and portal venous phase imaging in the setting blunt abdominal and pelvic trauma, and the utility of whole body imaging. 4) Review new imaging applications and techniques such as iterative reconstruction and dual-energy CT, which can help better image abdominal and pelvic injuries post-trauma.

ABSTRACT

MSCAS1C  Acute Abdomen Imaging

Participants
Stephan W. Anderson, MD, Boston, MA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will be exposed to the current literature related to imaging of acute abdominal pain using CT. 2) The participant will be able to apply an evidence-based approach to CT protocol development in the imaging of acute abdominal pain. 3) The participant will be able to independently evaluate the published literature in this area in a critical fashion and continue to apply recent developments to their own practice.
Case-based Review of Breast (An Interactive Session)

Thursday, Dec. 3 1:30PM - 3:00PM Location: S100AB

BR DM

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

Participants
Janie M. Lee, MD, Bellevue, WA (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify the appropriate application of multimodality breast imaging for routine screening, supplemental screening, and diagnostic indications. 2) Select appropriate methods for performing imaging-guided percutaneous breast biopsy and post-biopsy radiologic-pathologic correlation. 3) Calculate performance measure values for a breast imaging audit and compare with appropriate benchmarks.

Sub-Events

MSCB51A  Screening: Digital Mammography and Tomosynthesis

Participants
Helen Anne D’Alessandro, MD, Boston, MA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) To review the current role of screening digital mammography and tomosynthesis. 2) To demonstrate digital mammography and tomosynthesis use for evaluating screening callbacks of masses, calcifications, architectural distortion and summation artifacts. 3) To discuss tomosynthesis for decreasing callback rates, evaluating extent of disease and increasing cancer detection rates.

ABSTRACT
This case based review will demonstrate digital mammography and tomosynthesis use for evaluating callbacks of masses, calcifications, architectural distortion and summation artifacts. Practical considerations of digital mammography and tomosynthesis will also be discussed, including the effect of digital tomosynthesis on screening callback rates, evaluating extent of disease and increasing cancer detection rates.

MSCB51B  Supplemental Screening in an Era of Breast Density Notification Legislation

Participants
Janice S. Sung, MD, New York, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT
This talk will focus on the various imaging modalities that are available for supplemental screening for intermediate and high risk patients, including ultrasound, MRI, and contrast enhanced digital mammography. The clinical evidence supporting their use for supplemental screening will be reviewed. The advantages and disadvantages of each modality will also be reviewed during this case based session.

MSCB51C  Evaluating the Symptomatic Patient

Participants
Catherine M. Appleton, MD, Saint Louis, MO (Presenter) Scientific Advisory Board, Hologic, Inc; Royalties, Oxford University Press;

LEARNING OBJECTIVES
1) To understand the clinical presentation of benign and malignant breast conditions. 2) To review current guidelines for evaluating the symptomatic patient. 3) To discuss specific imaging approaches for evaluating breast symptoms.
RSNA Diagnosis Live™: Peds, IR, Potpourri

Thursday, Dec. 3 3:00PM - 4:00PM Location: E451B

IR PD

AMA PRA Category 1 Credit ™: 1.00
ARRT Category A+ Credit: 1.00

Participants
Paul J. Chang, MD, Chicago, IL, (pchang@radiology.bsd.uchicago.edu) (Presenter) Co-founder, Stentor/Koninklijke Philips NV; Researcher, Koninklijke Philips NV; Medical Advisory Board, lifeIMAGE Inc; Medical Advisory Board, Merge Healthcare Incorporated
Brian S. Funaki, MD, Riverside, IL (Presenter) Data Safety Monitoring Board, Novate Medical
Kate A. Feinstein, MD, Chicago, IL, (kfeinstein@radiology.bsd.uchicago.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will be introduced to a series of radiology case studies via an interactive team game approach designed to encourage "active" consumption of educational content. 2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time. 3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.
Case-based Review of the Abdomen (An Interactive Session)

Thursday, Dec. 3 3:30PM - 5:00PM Location: S406A

GI US

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

Participants
Douglas S. Katz, MD, Mineola, NY, (dkatz@winthrop.org) (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) To review a series of clinically relevant, abdominal imaging cases, with audience participation. 2) To review important concepts and potential pitfalls of: the liver on sonography; the acute abdomen on US, CT, and MR; liver transplants on multi-modality imaging; genitourinary imaging; and trauma imaging. 3) To provide take home points for the audience based on specific actual case material which was instructional or problematic for the presenters.

ABSTRACT

Sub-Events

MSCA52A  Abdominal Transplant Imaging

Participants
Matthew T. Heller, MD, Pittsburgh, PA, (hellermt@upmc.edu) (Presenter) Consultant, Reed Elsevier; Author, Reed Elsevier

LEARNING OBJECTIVES
1) Describe normal post-operative imaging of liver transplantation. 2) Categorize the complications of liver transplantation and summarize common imaging findings. 3) Integrate the role of imaging in the treatment plan of the transplant patient.

ABSTRACT

Active Handout:Matthew Thomas Heller


MSCA52B  Adrenal Imaging

Participants
Julie H. Song, MD, Providence, RI, (jsong2@lifespan.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Recognize the imaging appearances of common adrenal masses and review uncommon lesions. 2) Understand the principles of imaging characterization of adrenal masses and apply imaging tools appropriately. 3) Learn to avoid pitfalls and misdiagnoses of adrenal lesions.

MSCA52C  Hepatic Sonography: Pearls and Pitfalls

Participants
Terry S. Desser, MD, Stanford, CA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Correctly identify common and uncommon sonographic pathology in the liver. 2) Use your understanding of basic sonographic and physiologic principles to infer the correct diagnosis in unusual ultrasound cases.

Active Handout:Terry S. Desser

Case-based Review of Breast (An Interactive Session)

Thursday, Dec. 3 3:30PM - 5:00PM Location: S100AB

BR SQ

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

Participants
Janie M. Lee, MD, Bellevue, WA (Director) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify the appropriate application of multimodality breast imaging for routine screening, supplemental screening, and diagnostic indications. 2) Select appropriate methods for performing imaging-guided percutaneous breast biopsy and post-biopsy radiologic-pathologic correlation. 3) Calculate performance measure values for a breast imaging audit and compare with appropriate benchmarks.

Sub-Events
MSCB52A Percutaneous Breast Biopsies

Participants
Wendy B. Demartini, MD, Madison, WI (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Understand the advantages and limitations of percutaneous breast biopsy. 2) Compare the different potential methods of core needle biopsy. 3) Apply techniques for the biopsy of routine and challenging cases using mammography, ultrasound and MRI guidance.

ABSTRACT

MSCB52B Radiologic-Pathologic Correlation

Participants
Heidi R. Umphrey, MD, Birmingham, AL (Presenter) Research support, General Electric Company

LEARNING OBJECTIVES
View learning objectives under main course title.

MSCB52C Performance Measures

Participants
Janie M. Lee, MD, Bellevue, WA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify the data to be collected and calculate performance measures for the basic clinically relevant breast imaging audit. 2) Compare audit results with appropriate performance benchmarks. 3) Understand additional data and calculations needed to perform a comprehensive breast imaging audit.
**Tips on Effective Educational Strategies for International Outreach**

Thursday, Dec 3 4:30PM - 6:00PM Location: S403A

**LEARNING OBJECTIVES**

1) Evaluate low-resource settings for potential challenges to radiology education. 2) Determine opportunities that may lead to an effective teach the teacher program. 3) Synthesize and integrate best practice tips into educational programs in low-resource settings.

**Participants**

Kristen K. DeStigter, MD, Burlington, VT (*Moderator*) Medical Advisory Board, Koninklijke Philips NV; Luminary, McKesson Corporation; Research collaboration, Koninklijke Philips NV;

**Sub-Events**

**RC702A 10 Tips for an Effective Teach the Teacher Model in Low-resource Settings**

**Participants**

Kristen K. DeStigter, MD, Burlington, VT (*Presenter*) Medical Advisory Board, Koninklijke Philips NV; Luminary, McKesson Corporation; Research collaboration, Koninklijke Philips NV;

**LEARNING OBJECTIVES**

1) Identify the need for supporting pediatric imaging as an international education outreach. 2) Develop a pediatric radiology fellowship curriculum suitable for an international outreach undertaking. 3) Execute an international pediatric radiology fellowship as part of educational outreach program.

**ABSTRACT**

In many economically less developed countries, the proportion of infant, children and adolescent population can be staggeringly high. The pediatric population can be as much as two-third of the total population. Despite this fact, even in those countries where some level of radiological services and residency program for radiology exist, pediatric imaging gets least priority. Many of these countries also do not even have a single pediatric radiologist. Thus supporting pediatric imaging in such countries within the context of an international education outreach is understandably justified. Collaborating with a local teaching hospital that has a radiology residency program and supporting the pediatric imaging is an easy first step to take. However, a long-term and sustainable way to improve pediatric imaging is to train the teachers in pediatric imaging i.e. conduct a pediatric radiology fellowship. This can be integrated in the institutional framework and provide a lasting and continuous support to pediatric imaging in the country. The example of the collaboration of Department of Radiology of The Children's Hospital of Philadelphia and the Department of Radiology of Addis Ababa University in Ethiopia will be used to illustrate how to establish a pediatric radiology fellowship as an international education outreach.

**RC702B Establishing a Pediatric Radiology Fellowship as an International Education Outreach**

**Participants**

Kassa Darge, MD, PhD, Philadelphia, PA (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Introduce principles and strategies for the assessment of radiology scarcity in low and middle income countries. 2) To summarize approaches used in Asia, Africa and Latin America for increasing radiology access. 3) To present key components of radiology service delivery in low and middle income countries, such as staff education, radiation safety, and image quality.

**RC702C Global Health Radiology: Educational Principles and Strategies from RAD-AID**

**Participants**

Erica Pollack, Denver, CO (*Presenter*) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Understand the potential barriers to learning when speaking to international audiences. 2) Raise awareness of possible cultural differences when teaching groups abroad. 3) Learn how to adapt your own teaching style and methods to international audiences.
Musculoskeletal Tumors

Thursday, Dec. 3 4:30PM - 6:00PM Location: S406B

Participants
Mark D. Murphey, MD, Reston, VA, (MMurphey@acr.org) (Director) Nothing to Disclose

Sub-Events

RC704A Staging of Musculoskeletal Tumors

Participants
David M. Panicek, MD, New York, NY, (panicekd@mskcc.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Describe the rationale and systems for staging musculoskeletal tumors. 2) List the components of local staging of musculoskeletal tumors at MRI. 3) Identify various MRI pitfalls in staging musculoskeletal tumors.

ABSTRACT

RC704B Dilemmas and Pitfalls in MSK Tumor Imaging

Participants
Mark D. Murphey, MD, Reston, VA, (MMurphey@acr.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Recognize the imaging differentiation of cystic lesions from myxoid neoplasms. 2) Understand the imaging appearance that allows distinction of hematoma from hemorrhagic neoplasm. 3) Identify the imaging characteristic of myositis ossificans. 4) Improve recognition of the concept of impending pathologic fracture and its clinical relevance.

Honored Educators

Presenters or authors on this event have been recognized as RSNA Honored Educators for participating in multiple qualifying educational activities. Honored Educators are invested in furthering the profession of radiology by delivering high-quality educational content in their field of study. Learn how you can become an honored educator by visiting the website at: https://www.rsna.org/Honored-Educator-Award/

Mark D. Murphey, MD - 2015 Honored Educator

RC704C Post-Treatment Imaging of MSK Tumors

Participants
Mark J. Kransdorf, MD, Phoenix, AZ (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Construct a framework for evaluation of patients following treatment. 2) Recognize the spectrum of post treatment imaging findings. 3) Identify features to distinguish post treatment change from recurrent tumor.

ABSTRACT

Active Handout: Mark J. Kransdorf

RC704D Radiologic Treatment of MSK Tumors

Participants
Peter L. Munk, MD, Vancouver, BC (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Familiarize the attendee with the most commonly used imaging guided per cutaneous thermal ablation techniques used in treatment of both benign tumours and metastatic disease involving the MSK system. 2) Review indications for radiologic treatment of bone tumors. 3) Examine the potential complications that can be encountered.
**The Temporal Bone: Anatomy, Inflammation and Tumors**

**Thursday, Dec. 3 4:30PM - 6:00PM Location: E450A**

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

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**Participants**

**Sub-Events**

**RC706A  Temporal Bone Imaging: Anatomy**

Participants

John I. Lane, MD, Rochester, MN, (lane.john@mayo.edu) *(Presenter)* Nothing to Disclose

**LEARNING OBJECTIVES**

1) The learner will be able to easily identify the clinically relevant anatomic structures of the temporal bone after completing the course. 2) The learner will have a better appreciation of the orientation of the auditory ossicles and the benefits of multiplanar oblique reconstructions from MDCT datasets for demonstrating normal ossicular anatomy and pathology. 3) The learner will have a better appreciation of the normal and pathologic appearance of the cochlea, vestibule, semicircular canals, and vestibular aqueduct on high resolution CT and MR.

**RC706B  Temporal Bone Imaging: Inflammation**

Participants

Joel D. Swartz, MD, Gladwyne, PA *(Presenter)* Nothing to Disclose

**LEARNING OBJECTIVES**

1) The learner will be able to understand and analyze the most common varieties of inflammation involving the external auditory canal, middle ear, mastoid and inner ear. 2) The learner will understand the appropriate use of computed tomography and MRI. 3) The learner will be able to differentiate cholesteatoma from other middle ear maladies and understand the pathophysiology of the entities discussed in the presentation. 4) The learner will understand the imaging approach to inner ear inflammation.

**ABSTRACT**

This presentation will follow an anatomically organized template. The external ear entities emphasize will include necrotizing external otitis, keratosis obturans, granulation tissue and EAC cholesteatoma. There will be special attention to middle ear cholesteatoma with a discussion of diffusion weighted imaging and differentiation of this lesion of granulation tissue and cholesterol granuloma. The pathophysiology of labyrinthitis will also be emphasized.

**RC706C  Temporal Bone Imaging: Tumor**

Participants

Amy F. Juliano, MD, Boston, MA, (amy_juliano@meei.harvard.edu) *(Presenter)* Nothing to Disclose

**LEARNING OBJECTIVES**

1) Understand temporal bone anatomy and identify the various portions of the temporal bone. 2) Know the most common neoplasms that occur in different areas of the temporal bone, and recognize their imaging characteristics. 3) Know the differential diagnosis of tumors in the temporal bone region by location and imaging appearance.

**ABSTRACT**

Temporal bone neoplasms are overall not very common. It is useful to think of the temporal bone in terms of its various subsites, as the tumors that may be found in each subsite is different, and being able to localize an imaging finding to a particular subsite greatly aids in establishing a differential diagnosis. When there are classic imaging features, one can even quite easily arrive at the specific diagnosis. The subsites to be discussed are: the internal auditory canal/cerebellopontine angle cistern, middle ear cavity, mastoid, external auditory canal, petrous apex, and the facial nerve.
Modern Methods of Education - Innovation, Social Media, and Active Learning

Friday, Dec. 4 8:30AM - 10:00AM Location: E351

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

Participants
Mahesh M. Thapa, MD, Seattle, WA (Moderator) Nothing to Disclose

Sub-Events

RC802A  Beyond Slideshows...Innovative Methods to Make Presentation

Participants
Jeffrey P. Otjen, MD, Seattle, WA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Discuss innovative methods that can improve radiology education initiatives. 2) Review the pros and cons of these various strategies.

RC802B  Using Social Media for Radiology Education

Participants
Arnold C. Merrow JR, MD, Cincinnati, OH, (carl.merrow@cchmc.org) (Presenter) Author with royalties, Reed Elsevier; Consultant, Reed Elsevier;

LEARNING OBJECTIVES
1) To discuss possible roles for social media utilization in radiology education. 2) To review advantages and disadvantages of various social media platforms for engaging radiology learners. 3) To enable attendees to leverage social media applications for their teaching goals.

RC802C  The Flipped Classroom - Engagement through Active Learning

Participants
Mahesh M. Thapa, MD, Seattle, WA (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Reiterate the difference between active and passive learning. 2) Describe the principles of Active Learning. 3) Incorporate the principles of Active Learning into his/her teaching.