AAM/AP/RSA Physics Tutorial for Residents: Control of Dose in Computed Tomography

Saturday, 12:00 PM - 02:00 PM • E351

LEARNING OBJECTIVES
1) To describe the underlying physics of CT Dose and the technical factors which affect patient dose. 2) To understand different approaches to image reconstruction and their contribution to patient dose reduction. 3) How to develop and review low dose protocols for CT.

SPPH01A • Factors that Affect CT Dose and Dosimetry Methods
Jerry A Thomas, MS (Presenter)
LEARNING OBJECTIVES
1) Gain greater understanding of the NIH grants process: a. understand the process for preparing a research or training grant application. b. learn the elements of a competitive grant application. 2) Gain insight into the new features of the NIH review process. 3) View the review process in action through a mock study section.

SPGW01A • Welcome and Introductory Remarks
Gayle E Woloschak PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01B • Preparing an R01 Research Application
Pratik Mukherjee MD, PhD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01C • Preparing K Awards
Ruth C Carlos MD, MS (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01D • Clinical Trials in Applications
Michael W Vannier MD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01E • Program Perspectives
Belinda Seto PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01F • The Process of Review
Gayle E Woloschak PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01G • Mock Study Section

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01H • Questions to the Faculty
Gayle E Woloschak PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPGW01I • Summary and Evaluation Form
Gayle E Woloschak PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.
LEARNING OBJECTIVES
1) Identify the different grant mechanisms available within the NIH and the requirements for submitting to a particular mechanism. 2) List the criteria used in the evaluation of NIH grants and what happens prior to and during a study section review meeting. 3) Articulate the benefits of being a reviewer for the NIH and the different ways that one can be a reviewer. 4) Observe a mock study section presented by the NIH with experienced reviewers evaluating at least two grant mechanisms.

ABSTRACT
This workshop designed to provide information to radiologists and imaging scientists interested in serving as expert peer reviewers on NIH and other grant study sections. Although a significant amount of information is available on how the review process works, many investigators (new and experienced) have questions that are best answered in person by those who have first-hand experience. Attendees will be provided with a clearer understanding of the review process, enabling them to be better prepared to serve as reviewers on NIH Study Sections or other grant-review panels.

SPRW01A ● Welcome and Introductory Remarks
LEARNING OBJECTIVES
View learning objectives under the main course title.

SPRW01B ● The New Peer Review Process: Changes, Challenges, and Opportunities
LEARNING OBJECTIVES
View learning objectives under the main course title.

SPRW01C ● Review Criteria: Varying Emphasis by Grant Mechanism
LEARNING OBJECTIVES
View learning objectives under the main course title.

SPRW01D ● Getting on a Study Section: How, Why, and Which One?
LEARNING OBJECTIVES
View learning objectives under the main course title.

SPRW01E ● Panel Discussion/QandA
LEARNING OBJECTIVES
View learning objectives under the main course title.

SPRW01F ● Reviewing for Other Organizations

SPRW01G ● Mock Study Section (Joint Session with NIH Grantsmanship Workshop Faculty)
LEARNING OBJECTIVES
View learning objectives under the main course title.

SPRW01H ● Closing Comments
LEARNING OBJECTIVES
View learning objectives under the main course title.

Radiología de la Infección e Inflamación: Sesión del Colegio Interamericano de Radiología (CIR) en Español/Imaging of Infection and Inflammation: Session of the Interamerican College of Radiology (CIR) in Spanish

Saturday, 01:00 PM - 05:00 PM ● E451A

SPSP01A ● Introducción/Opening Remarks
Gloria Soto Giordani MD (Presenter)

SPSP01B ● Primera Parte: Radiología de la Infección e Inflamación/Part I: Imaging of Infection and Inflammation
Pablo R Ros MD, PhD (Presenter) *

SPSP01C ● Sistema Nervioso Central: Claves en el Diagnostico por la Imagen de la Tuberculosis Cerebral/Central Nervous System: Imaging Clues in Cerebral Tuberculosis
Miguel E Stoopen MD *
Diagnostic imaging of septic arthritis has little specific signs. In plain x-ray is seen increasing volume and density of soft tissues, with partial or total loss of peri-articular fat lines, without bone alterations in the stages mainly in children. In order to avoid irreversible damage of articular cartilage and joint is mandatory to perform a joint puncture to prepare smear and culture and therefore establish the diagnosis and early treatment. In the later stages as the plain x-ray imaging methods, US, CT, MRI, PET-CT and SPECT are of great value, alone or all together can establish the diagnosis.

Magnetic resonance imaging MRI is very sensitive but poorly specific.

In the appendicular skeleton more frequently in shoulder, knee or hip can increase joint fluid and synovitis or its complications such as osteomyelitis or abscesses, while in the axial skeleton infection manifests as spondylodiscitis, usually affecting only one intervertebral space and which can be extend to soft tissues or the spinal canal that becomes more evident with the application of gadolinium. These data establish diagnosis but the definitive settles with the smear, culture or biopsy.

In all cases should be establish the differential between pyogenic and TB diagnosis.

Osteomyelitis has three types of acute, subacute and chronic presentation. The infection reaches bone by hematogenous route, by contiguous extension or direct inoculation. The osteomyelitis confined in children as Staphylococcus aureus followed from a huge list of pathogens including Mycobacterium tuberculosis, anaerobes, fungi, etc. It occurs at any age and risk factors are wounds in skin, exposed fractures, surgery, prosthesis, diabetes, immune suppressed and others. Acute osteomyelitis has no manifestation on plain x-ray or in single CT bone scan and MRI can show it with high sensitivity but low specificity. The MRI shows edema in bone marrow and with gadolinium-based contrast material, but only biopsy and culture gives the definitive diagnosis. Subacute osteomyelitis is represented by the Brodie’s abscess which is located in the epiphysis or the metaphysis owing to vascular pattern in children in those places, while in adults the location is metaphysial, its etiology is usually pyogenic but it could also be tuberculosis. As seen in the plain x-ray as geographical with sclerosed edge, thickness and radiopaque, with similar MRI but, MR is more sensitive and with the application of gadolinium-based contrast material sensitivity and specificity increase giving reliability to the diagnosis.

Chronic osteomyelitis is composed of the involucrum, sequestra and fistulous tract, demonstrated altogether by plain x-ray, CT and MRI that together with the application of gadolinium-based contrast material can demonstrate the features of each of them as well as its complications, which can be supported with methods such as SPECT or PET-CT in cases of doubt. If the diagnosis and treatment of osteomyelitis is set properly, the result can be the cure.

Diabetic foot deserves a special mention in the chapter of infection since we need to know it deeply to help establish the presence of infectious process in the best way. Because the neuropathopathy, peripheral arterial disease and the increased sensitivity to infection, diabetic patients exposed to skin lesions in the sole of the foot, support sites such as the head of the first and fifth metatarsal and heel, with high risk of developing ulcers, which are ports of entry of the diverse microorganisms that can develop cellulitis, septic arthritis and osteomyelitis. Plain x-ray, CT, MRI, PET-CT and SPECT alone, combined or all together provide valuable data to establish the diagnosis although Staphylococcus aureus prosthetic, the artritis súptica se produce por via hematogena, por contigüidad o por inoculación directa y puede ser piogena o no piogena, más común en el esqueleto appendicular en niños y en el esqueleto axial en los adultos. Los agentes causales más comunes son el estafilococo dorado en las piógenas y el Mycobacterium tuberculosis en las no piógenas. El diagnóstico por imagen de la artritis súptica tiene signos poco específicos. En la radiografía simple ve aumento de volumen y densidad de los tejidos blandos, con pérdida parcial o total de las líneas grasas peri-articulares, sin alteraciones en las etapas tempranas principalmente en niños. Si estos datos se suman a la realización de una punción para frotis y cultivo, se establece el diagnóstico definitivo y por tanto el tratamiento oportuno. En las etapas más tardías los métodos de imagen como la radiografía simple, el US, la TAC, la IRM y el PET-CT son de gran valor ya que conjuntamente pueden orientar el diagnóstico. La imagen por resonancia magnética MRI es muy sensible pero poco específica.

En el esqueleto appendicular con más frecuencia en hombro, rodilla o cadera puede demostrar derrame articular y datos de sinovitis o sus complicaciones como osteomielitis o abscesos, mientras que en el esqueleto axial la infección articular se manifiesta como responsable de un espacio intervertebral y sólo puede extenderse a los tejidos blandos o al canal raquídeo que se hacen más evidentes con la aplicación de gadolinio. Estos datos orientan al diagnóstico pero el definitivo se establece con el cultivo, el frotis o la biopsia.

En todos los casos hay que establecer el diagnóstico diferencial entre piogena y tuberculosa. La osteomielitis tiene tres tipos de presentación, aguda, subaguda y crónica. La infección llega al hueso por vía hematógena, por contigüidad o por inoculación directa. El agente causal más común tanto en niños como en adultos es el estafilococo dorado seguido de una gran lista de agentes patógenos incluidos el mycobacterium tuberculosis, anaerobes, hongos etc. Se presenta a cualquier edad y son factores de riesgo heredas en piel, fracturas expuestas, cirugía, prótesis, diabéticos, inmunosuprimidos y otros.

La osteomielitis aguda no tiene manifestaciones en la radiografía simple ni en TAC sólo la gamagrafia y la IRM pueden demostrarla con alta sensibilidad pero poca especificidad. La IRM muestra frotis y de tejidos blandos con mayor intensidad después de la aplicación de gadolinio, pero sólo la biopsia y el cultivo dan el diagnóstico definitivo.

La osteomielitis subaguda esta representada por el absceso de Brodie que en los niños se localiza en la epífisis o en la metáfisis por el patrón vascular en esos sitios, mientras que en los adultos la localización es metafisaria, su etiología generalmente es piogena pero también puede ser tuberculosa. Se puede observar en la radiografía simple como imagen geográfica de borde escleroso grueso y radiopaque al igual que en la TAC, pero la IRM es más sensible y con la aplicación de gadolinio la sensibilidad y especificidad aumentan dando mayor especificidad al diagnóstico.

La osteomielitis crónica esta integrada por el involucro, el sequestro y la cloaca, demostados en conjunto por la radiografía simple, la TAC y la IRM que junto con la aplicación del medio de contraste gadolinio permiten demostrar las características de cada uno de ellos así como sus complicaciones como los tractos fistulosos y los abscesos, que en casos de duda se pueden apoyar con métodos tales como el SPECT o el PET-CT.

Si el diagnóstico y tratamiento de la osteomielitis se establece oportunamente, el resultado puede ser la curación. El pie diabético merece una mención especial en el capítulo de infección ya que debemos conocerlo profundamente para ayudar a establecer de la mejor manera la presencia de proceso infeccioso. Debido a la neuroartropatía, a la enfermedad arterial periférica y a la mayor sensibilidad a la infección, el paciente diabético esta expuesto a lesiones de piel en la región plantar en los sitios de apoyo como son la cabeza del primer y quinto metatarsanos y el calcáneo, con alto riesgo de desarrollar úlceras, que son los puertos de entrada de los diferentes.
microorganismos que pueden desarrollar celulitis, artritis séptica y osteomielitis. La radiografía simple, la TAC, la IRM, el PET-CT y el SPECT solos, combinados o todos en conjunto aportan datos valiosos para establecer el diagnóstico aunque como en todos los procesos infecciosos, el frotis el cultivo y/o la biopsia son los que establecen el diagnóstico final.

URL

Santiago E Rossi MD (Presenter) *

LEARNING OBJECTIVES
1) Define terminology and classification of small airways disease / bronchiolitis. 2) Review common disease entities manifesting as bronchiolar disease. 3) Describe clinical and imaging clues helpful in narrowing the differential diagnosis.

Pedro Daltro MD (Presenter)

LEARNING OBJECTIVES
1) Establecer cuando la radiografía de tórax es suficiente para el diagnóstico de la neumonía en niños. 2) Identificar los hallazgos radiológicos más frecuentes en las neumonías virales y bacterianas. 3) Cuando y cómo utilizar la ecografía como complemento de la neumonía en niños. 4) Cuando y cómo se utiliza la TC de tórax como complemento de la neumonía en niños, enfatizando el uso de criterios específicos para su indicación y la necesidad de usar técnicas con baja dosis de radiación.

Miguel E Stoopen MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under the main title.

Diego A Aguirre MD (Presenter)

LEARNING OBJECTIVES
View learning objectives under the main title.

Douglas J Racy MD (Presenter)

LEARNING OBJECTIVES
1) Elucidate acute pancreatitis in its early phase and later phase, and the persistent organ failure that can accompany its occurrence. 2) Enumerate the various fluid collections encountered in acute pancreatitis as defined by the revised Atlanta classification. 3) Identify the two phases of acute pancreatitis, the parameters that determine care, and the treatment for an infected walled-off necrosis.

ABSTRACT
Imaging of acute pancreatitis requires not only an understanding of the disease subtypes and associated complications but also familiarity with the appropriate radiologic nomenclature as defined by the Atlanta symposium in 1992 and, more recently, by the Acute Pancreatitis Classification Working Group in 2008. The accurate description of the radiological findings plays a critical role in the evaluation and management of patients with acute pancreatitis, particularly those with severe disease. There have been increasing efforts to develop uniformity in the use of terminology used to define the radiologic findings in acute pancreatitis. Terms such as acute peripancreatic fluid collections, acute post-necrotic fluid collections, pseudocyst, and walled-off pancreatic necrosis are now recommended as they describe the evolution of fluid collections in patients with both interstitial and necrotizing pancreatitis and nonspecific terms such as pancreatic abscess and phlegmon are being abandoned. In this review we illustrate, with case examples, the standardized terminology used in the radiological and clinical description of acute pancreatitis, its severity, and complications with an emphasis on the role of computed tomography and magnetic resonance imaging. Different management options of the associated complications are also discussed. The use of standardized terminology will hopefully improve the communication between radiologists, gastroenterologists, and surgeons to facilitate treatment planning and will lead to enhanced outcomes for patients with acute pancreatitis as well as create uniformity for enrollment into research studies.

Victor J Casillas MD (Presenter)

LEARNING OBJECTIVES
1) To describe the clinical presentation, etiology and radiographic imaging modalities to evaluate acute pyelonephritis and renal abscess. 2) To illustrate the imaging findings of these conditions. 3) To discuss the differential diagnosis and management. 1) Describir la
ABSTRACT

Presentacion clinica, la etiologia y las modalidades por imagenologia para la evaluacion de la pielonefritis aguda y absceso renal. 2) Presentar los hallazgos por imagenologia de estas condiciones. 3) Discutir el diagnostico diferencial y el manejo.

ABSTRACT

Pelvic inflammatory disease (PID) represents inflammation of the upper genitalia and the adjacent pelvic region. The etiology is an infectious agent, but it is often never identified. Risk factors include young age, high frequency of partner change, lack of barrier contraception low socioeconomic group. The clinical presentation is pelvic pain, fever and leucocytosis. US is considered the initial imaging test of choice but CT is more accurate. The main findings in CT are: Small amount of fluid in the pelvis, fat stranding or increased attenuation of pelvic fat and pyosalpinx. Tuboovarian abscess appears as a complex fluid collection with thick enhancing walls, commonly bilateral. CT can be used as guidance for percutaneous drainage.

LEARNING OBJECTIVES

1) Discuss the optimal CT techniques for evaluating patients with suspected PID. 2) Recognize the CT findings commonly seen in early and advanced PID. 3) Discuss common and uncommon causes of PID.

LEARNING OBJECTIVES

1) To understand the differences in design and imaging reconstruction in commercial systems designed for CT imaging and aftermarket image post processing systems. 2) To appreciate the impact dose reduction techniques have on image quality and the clinical management of disease. 3) To develop a business model for incorporating dose reduction into CT imaging.

LEARNING OBJECTIVES

1) Understand the principles of musculo-skeletal imaging as it relates to soft tissue tumors arising in the extremity and trunk. Specifically, the learner will understand the importance of how appropriate imaging modalities are critical to correct diagnosis, staging and treatment of soft tissue tumors in children. 2) Apply basic physics principles to the imaging and therapeutic modalities involved in diagnosis, staging and management of soft tissue sarcomas in children. Specifically, the learner will be able to apply specific imaging modalities and techniques in order to improve the detection, accuracy of staging and management of soft tissue sarcomas, while minimizing the risk of ionizing radiation exposure in children. 3) Analyze the value of different imaging modalities and therapeutic techniques for children with soft tissue sarcomas. Specifically, the learner will be able to analyze the importance of specific imaging studies required for patient enrollment in clinical trials and ensure safe administration of cancer therapy with respect to cost. 4) Demonstrate how cultural and economic differences may influence practices of care for radiologic imaging in children with soft tissue sarcomas today and the future. 5) Compare relative value of image guided techniques in management of pediatric soft tissue sarcomas. Specifically, the learner will be able to compare the pros and cons of current imaged guided techniques for the diagnosis and management of soft tissue sarcomas in children to optimize outcome and minimize complications.
The clinical report is an essential part of the service radiologists provide to their patients. The report is a tool that communicates information to referring physicians, serves as the legal record that documents the episode of care and records information for future use. A structured report is uniform, comprehensive, easily managed report that is ‘readable’ to humans and machines alike. Structured reporting improves radiology reporting practice by creating clear and consistent reports that contain reusable structured data. Structured reports facilitate closed-loop result communication, real-time radiologist decision support, quality improvement processes, and clinical research. This session will develop logical arguments regarding the strengths and weaknesses of structured reporting, thereby enabling the listener to form reasoned opinions about its value.

**Hot Topic Session: Concussion and Traumatic Brain Injury**

**Monday, 07:15 AM - 08:15 AM • E451B**

**SPSH20**  ●  **AMA PRA Category 1 Credit ™:** 1  ●  **ARRT Category A+ Credit:** 1  
**Moderator**  
Pratik Mukherjee, MD, PhD *

**LEARNING OBJECTIVES**
1) To understand the potential of magnetoencephalography (MEG) for better diagnosis in mild traumatic brain injury (TBI).
2) To review the current best practices for imaging of sports concussions and the findings of recent imaging research studies of athletes.
3) To provide an overview of blast injury and other special characteristics of TBI in military populations, with the most recent results from imaging studies.

**SPSH20A • MEG of Mild Traumatic Brain Injury: A New Frontier**

Mingxiong Huang PhD (Presenter)

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

**SPSH20B • Imaging of Sports Concussion**

Michael M Zeineh PhD, MD (Presenter)

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

**SPSH20C • Imaging of Military TBI**

Gerard Riedy PhD, MD (Presenter)

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

**Hot Topic Session: Therapies for Early Stage I Lung Cancer: Options and Controversies**

**Monday, 07:15 AM - 08:15 AM • E353A**

**SPSH21**  ●  **AMA PRA Category 1 Credit ™:** 1  ●  **ARRT Category A+ Credit:** 1  
**Moderator**  
Zhongxing Liao, MD  
Joseph K Salama, MD  
Damian E Dupuy, MD *  
Jessica S Donington, MD *

**LEARNING OBJECTIVES**
1) To understand the role, benefits and risks of stereotactic radiation in the treatment of early-stage lung cancer. 2) To understand interventional oncology and surgical options in the treatment of early-stage lung cancer. 3) To gain a critical appraisal of all three options and risks and benefits of each for personalized care in challenging patients population with common multi-morbidity.

**AAPM/RSNA Basic Physics Lecture for the Radiologic Technologist: Digital Imaging Exposure Indicators-Implications for Image Quality and Dose**

**Monday, 01:30 PM - 02:45 PM • S102D**

**SPPH21**  ●  **AMA PRA Category 1 Credit ™:** 1.25  ●  **ARRT Category A+ Credit:** 1.5  
**Moderator**  
Douglas E Pfeiffer, MS *  
Eric L Gingold, PhD  
Charles E Willis, PhD

**LEARNING OBJECTIVES**
1) Understand why exposure indicators are necessary for computed radiography and digital radiography. 2) Provide examples of how exposure indicators can be used for quality control of an imaging operation. 3) Explain the relationship between the amount of radiation used to perform the examination, the radiation dose to the patient, and the quality of the resulting image. 4) Discuss the importance of establishing and managing target values. 5) Appreciate the practical limitations of exposure indicators.

**Physics Symposium: Uncertainties in Radiation Therapy 2**

**Monday, 01:30 PM - 05:45 PM • S102C**
LEARNING OBJECTIVES
1) Describe the limitations of traditional QA/QM programs in radiation oncology. 2) Understand the rationale for establishing risk-based QA/QM programs in radiation oncology. 3) Learn how to apply FMEA methodology in radiation oncology.

SPPH22A • New Paradigms of QA/QM
Jatinder R Palta PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT
The increasing complexity, functionality, and site-to-site variability of modern radiation therapy planning and delivery techniques challenge the traditional prescriptive quality assurance/quality management (QA/QM) programs that ensure safety and reliability of treatment planning and delivery systems under all clinical scenarios. The manufacturing industry has historically relied on extensive testing and use of techniques such as probabilistic reliability modeling for developing and maintaining new products. Among the most widely used method of risk analyses are Failure Modes and Effects Analysis (FMEA). This is a methodology for analyzing potential reliability problems early in the development cycle where it is easier to take actions to overcome these issues, thereby enhancing reliability through design. FMEA is used to identify potential failure modes, determine their effect on the operation of the product, and identify actions to mitigate the failures. From a manufacturer’s perspective, FMEA is a valuable method to systematically evaluate a device design’s potential for inducing use errors. User errors are defined as a pattern of predictable human errors that can be attributable to inadequate or improper design. When these risk analyses are done early in the development cycle, potential faults and their resulting hazards are identifiable and much easier to mitigate with error-reducing designs. These risk management methods are excellent complements to other important user-centered design best practices. Risk analysis, or hazard analysis, is a structured tool for the evaluation of potential problems which could be encountered in connection the use of a device. The early and consistent use of FMEAs in the design process allows the engineers to design out failures and produce reliable and safe products. FMEAs also capture historical information for use in future product improvement. Such an approach should result in a QA/QM program in Radiation Oncology that has...

SPPH22B • QA/QM of the Reference Dosimetry
Larry A DeWerd PhD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPPH22C • QA/QM of the Treatment Planning Process
Jeffrey V Siebers PhD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPPH22D • QA/QM of the Treatment Delivery Process
Thomas R Mackie PhD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPPH22E • QA/QM of the Treatment Guidance Process
Lei Dong PhD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

Program to Enhance Relational and Communication Skills for Radiologists (PERCS:Radiology)
Monday, 01:30 PM - 04:30 PM • E271A

LEARNING OBJECTIVES
1) To improve radiology trainees’ preparedness to communicate with patients about a new, unexpected or difficult diagnosis. 2) To enhance radiology trainees’ success in discussing radiation safety with patients.

ABSTRACT
Expectations are rapidly evolving for how radiologists communicate with patients. Radiologists today face heightened responsibilities to discuss diagnostic information and to optimize communication about radiation exposure. These communication challenges require radiologists to convey cognitively complex information under emotionally charged conditions. Few educational opportunities exist to help radiologists acquire the skills necessary to approach these conversations effectively. PERCS-Radiology seeks to fill this gap and to enhance radiology trainees’ confidence and skills when communicating with patients about these difficult topics. This 3 hour workshop will combine didactic and educational media presentations with realistic improvisation enactments between workshop participants and professional actors. Enactment participants will receive feedback from other course participants, faculty, and actors. Faculty facilitators include experts in healthcare communication pedagogy. The learning model emphasizes group collaboration among professionals from varying levels of experience, integration of perspectives from patient and family representatives, and a safe environment that respects multiple viewpoints. Radiology trainees are the core learning group.

Estate Planning in Our New Tax Environment
Monday, 03:00 PM - 05:30 PM • E253AB
LEARNING OBJECTIVES
1) Fundamentals of conventional estate planning for any financial situation. 2) Planning strategies for retirement needs, Roth conversions, and charitable gifts. 3) Sophisticated strategies to leverage taxable gifts and transfer wealth to lower generations.

ABSTRACT
It is important to understand the fundamentals of estate planning and the importance of having a solid plan in place regardless of your financial situation. The desire to be tax efficient and keep up with the changing tax environment can sometimes feel like an insurmountable feat. In this seminar, we will explore a number of issues in the financial and tax planning arena including:

- Retirement Needs Analysis: reviewing your income sources and anticipated expenses in retirement and analyzing what effect the changing income tax environment has on your financial plan;
- Roth Conversions: an analysis of whether a Roth conversion is a smart move, unwise or much ado about nothing;
- Estate Planning Basics: a review of estate planning fundamentals, including a look at conventional estate planning strategies and how the changes in the estate tax laws may impact that conventional planning;
- Sophisticated Planning Strategies: there are various planning techniques available to leverage taxable gifts, allowing wealth to be funneled to lower generations on a tax-advantaged basis both during lifetime and at death;
- Non-Tax Related Planning: a look at how family dynamics, asset protection and state tax issues may impact the estate plan; and
- Charitable Planning: identifying the types of gifts and giving techniques that offer the greatest tax benefit to donors both during lifetime and at death.

In addition to comprehensive discussion outlined above, the session will include ample opportunity for Q&A.

RSNA Diagnosis Live™: Chest and Abdomen
Monday, 04:30 PM - 06:00 PM • E450A

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.

ABSTRACT
URL

Special Interest Session: Image Wisely®: Update on Issues in Adult Radiation Protection
Monday, 04:30 PM - 06:00 PM • E351

LEARNING OBJECTIVES
1) To understand the use and value of dose index registries. 2) To understand what patients want to know about their radiation exposure from medical imaging examinations. 3) To explore how best to work with payers on radiation protection programs. 4) To identify issues related to state regulations and accreditation for the use of ionizing radiation with medical imaging.

SPSI21A • Image Wisely® Update
James A Brink MD (Presenter)

SPSI21B • Dose Registries: Rationale and Implementation
Richard L Morin PhD (Presenter)

SPSI21C • What Patients Want to Know before Their Radiologic Exams
Andrew T Trout MD (Presenter) ; Jay K Pahade MD (Presenter)

SPSI21D • Working with Payers on Radiation Protection Programs
Christoph Wald MD, PhD (Presenter) *

SPSI21E • CT Dose Issues: State Regulations, Accreditation, and Real-life Scenarios
Robert K Zeman MD (Presenter)
**Special Interest Session: Getting Radiologist Peer Review Right**

Monday, 04:30 PM - 06:00 PM ● N229

**SPSI22A ● Options for Radiologist Peer Review**

David B Larson MD (Presenter) *

**LEARNING OBJECTIVES**
1) Understand the importance of a non-punitive approach to peer review. 2) Understand elements required to create a non-punitive environment. 3) Understand the limitations of using peer review for individual performance measurement. 4) Be able to implement a non-punitive peer review program locally.

**SPSI22B ● Peer Review of Procedural Radiologists**

Joseph R Steele MD (Presenter) *

**LEARNING OBJECTIVES**
1) Understand the status of the SIR Quality Registry. 2) Be able to design an IR peer review system using the SIR Quality Registry. 3) Learn how to drive quality improvement using regular feedback from a national quality registry.

**SPSI22C ● Peer Review as your PQI Project**

Bettina Siewert MD (Presenter)

**LEARNING OBJECTIVES**
1) To be familiar with the elements of a PQI project. 2) To identify peer review data suitable for a PQI project. 3) To perform a gap analysis of one's own peer review data. 4) To formulate a practical plan to achieve performance improvement. 5) To monitor improvement.

**ABSTRACT**
In this course we will discuss the PQI process, including necessary elements of a PQI project. We will start by identifying peer review data that is suitable for a project. A classification system for errors will be introduced that allows us to group errors, streamline our analysis and develop performance improvement measures. We will focus on individual and group projects, outline the differences in how these projects are performed and help the radiologist decide which type of project is best suited to her/his practice. We will define how an improvement plan can be put in place and how improvement can be measured. We will demonstrate the timeline and necessary documentation.

**URL**

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**Special Interest Session: Planning for the Future Radiology Workforce: Too Many or Too Few?**

Monday, 04:30 PM - 06:00 PM ● N228

**SPSI23A ● Introduction and Overview of Issues**

Carolyn C Meltzer MD (Presenter) *

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

**SPSI23B ● ACR 2013 Workforce Survey**

Edward I Bluth MD (Presenter)

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

**ABSTRACT**
The results of the ACR 2013 Workforce Survey will be presented and discussed.

**SPSI23C ● Our Changing Health Care World: Factors Influencing the Need vs Surplus of Radiologists**

Cheri L Canon MD (Presenter) *

**LEARNING OBJECTIVES**
View learning objectives under main course title.
SPSI23D • Is Radiology Still an Attractive Field: A Program Director’s Perspective
Mark E Mullins MD, PhD (Presenter)
LEARNING OBJECTIVES
View learning objectives under main course title.

SPSI23E • Going Forward: Is There a Formula for Success
Jocelyn D Chertoff MD (Presenter)
LEARNING OBJECTIVES
View learning objectives under main course title.

SPSI23F • Panel Discussion/Q and A
Carolyn C Meltzer MD (Presenter) *; Edward I Bluth MD (Presenter); Cheri L Canon MD (Presenter) *; Mark E Mullins MD, PhD (Presenter); Jocelyn D Chertoff MD (Presenter); Shawn D Teague MD (Presenter) *
LEARNING OBJECTIVES
View learning objectives under main course title.

Special Interest Session: Breast Density: Risk Assessment, Communication, and Approaches to Supplemental Imaging
Monday, 04:30 PM - 06:00 PM • E451A

SPSI24 • AMA PRA Category 1 Credit ™:1.5 • ARRT Category A+ Credit:1.5
Moderator
Robert A Smith, PhD
Martin J Yaffe, PhD *
Jennifer A Harvey, MD *
Wendie A Berg, MD, PhD *
LEARNING OBJECTIVES
1) Describe the current advocacy movement promoting state and federal requirements to report details about breast density, risks associated with breast density, and supplemental imaging options on mammography reports. 2) Understand the association of breast density and the risk of developing breast and the risk of poorer outcomes on screening mammography. 3) Describe the methods for assessment of mammographic density. 4) Describe the strengths and limitations of the different options for supplemental imaging in women with dense breast tissue. 5) Articulate the potential benefits, limitations, and harms associated with supplemental imaging in women with varying degrees of breast density.

Special Interest Session: Imaging in a New Dimension: Radiologists Add Value
Monday, 04:30 PM - 06:00 PM • N226

SPSI25 • AMA PRA Category 1 Credit ™:1.5
Mary C Mahoney, MD *
Bibb Allen, MD
LEARNING OBJECTIVES
1) To understand the mission and goals of RSNA’s Radiology Cares: The Art of Patient-centered Practice and ACR’s Imaging 3.0 campaigns. 2) To assess your radiology practice model and realign it to focus on value over volume. 3) To learn tactics to put the concepts of patient-centeredness and value vs. volume into practice.

Controversy Session: Fibroid Therapy: UAE vs Focused US
Tuesday, 07:15 AM - 08:15 AM • E350

SPSC30 • AMA PRA Category 1 Credit ™:1 • ARRT Category A+ Credit:1
Moderator
Brian S Funaki, MD
James B Spies, MD
Alan H Matsumoto, MD *
LEARNING OBJECTIVES
1) Describe role of uterine artery embolization in the treatment of symptomatic uterine fibroids. 2) Explain the use of high-intensity focused ultrasound (HIFU) in treatment of uterine fibroids. 3) Describe one pitfall of HIFU in treatment of uterine fibroids.

Hot Topic Session: Lung Adenocarcinoma - Evolving Concepts
Tuesday, 07:15 AM - 08:15 AM • E351

SPSH30 • AMA PRA Category 1 Credit ™:1 • ARRT Category A+ Credit:1
Moderator
Ella A Kazerooni, MD
LEARNING OBJECTIVES
1) To become familiar with the revised lung adenocarcinoma classification scheme. 2) To learn the appropriate imaging technique for detection and characterization of lung adenocarcinomas, particularly part solid and ground glass nodules. 3) To learn appropriate strategies
ABSTRACT
With advances in CT technology, thinner slices of the whole lungs in a single breath hold has become routine. With the improved resolution, more small nodules, and increasingly more nodules that are partly or entirely ground glass in opacity are detected that ever before. This has become particularly evident through the many single are lung cancer screening with low dose CT cohort studies, and the NLST. As nodules have been resected internationally, the need to redefine these largely adenocarcinomas was needed, resulting in a multisociety effort published in 2011; the details of this revised pathologic classification with imaging correlation be discussed and illustrated. In addition, it has been recognized that part solid nodules (mixed ground glass and solid components) carry a higher risk than pure ground glass nodules, and the latter higher risk than the more ubiquitous solid nodules. Managing these part solid and non solid nodules, together referred to as 'subsolid nodules' should therefore be different. In early 2013 the Fleischner Society published new recommendations for how to manage solitary and multiple subsolid nodules detected on CT as a complement to their earlier recommendations for managing indeterminate lung nodules which dealt with solid nodules. The details of the subsolid nodule management recommendations will also be discussed. Recommended reading: 1) Recommendations for the Management of Subsolid Pulmonary Nodules Detected at CT: A Statement from the Fleischner Society. Radiology. 2013 Jan;266(1):304-17 http://radiology.rsna.org/content/early/2012/10/10/radiol.12120628.full 2) International Association for the Study of Lung Cancer/American Thoracic Society/European Respiratory Society International Multidisciplinary Classification of Lung Adenocarcinoma. J Thorac Oncol. 2011 Feb;6(2):244-85 http://www.ncbi.nlm.nih.gov/pubmed/21252716
SPSH40D • Discussion

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH40E • Postoperative Evaluation of CHD

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH40F • MRI

Shi-Joon Yoo MD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH40G • CT

Rajesh Krishnamurthy MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH40H • Discussion

LEARNING OBJECTIVES
View learning objectives under main course title.

Hospital Administrators Symposium

Wednesday, 01:30 PM - 05:30 PM • S103AB

SPHA41 • AMA PRA Category 1 Credit ™:4 • ARRT Category A+ Credit:4.5

Moderator
Jonathan W Berlin , MD *

SPHA41A • Introduction
Jonathan W Berlin MD (Presenter) *

SPHA41B • New Roles for Radiologists in the Next Decade

Alan D Kaye MD (Presenter)

LEARNING OBJECTIVES
1) Awareness of the current pressures on radiologists. 2) Key constituencies for radiologists of the future. 3) How individual radiologists and their practices need to adapt to the above to provide value in the evolving health care landscape.

SPHA41C • Radiology in the Next Decade: The Payer's Perspective

Mark D Hiatt MD,MBA (Presenter) *

LEARNING OBJECTIVES
1) To explain the new emphasis on value over volume in the accountable care era. 2) To examine how radiologists may need to be more involved in coordinating care to achieve appropriate utilization. 3) To discuss how radiologists may share in the savings from value-based care.

SPHA41D • Radiology Utilization Management in the Next Decade

Cherrill Farnsworth (Presenter) *

LEARNING OBJECTIVES
1) Attendees will leave with having heard about radiology utilization management changing from denial based to best practices and peer to peer consulting driven by today's search engines and real time point of care smart phone, tablet and laptop tools. They will see actual such tools used today in action. 2) Attendees will learn the financial and economic drivers that are causing these changes and, thus understand where this is coming from and how it saves money in the American healthcare system and in their practice. 3) Attendees will leave having learned the political drivers of these changes and which ones are likely to stand and which ones are most likely to change or be withdrawn. 4) Attendees will be given actionable solutions that they can implement into their practices in order to maximize their department or groups readiness for change.

SPHA41E • Question and Answer Period
Jonathan W Berlin MD (Presenter) *; Alan D Kaye MD (Presenter); Mark D Hiatt MD,MBA (Presenter) *; Cherrill Farnsworth (Presenter) *

SPHA41F • Radiology Practice Mergers and Acquisitions: Clinical and Administrative Issues

Blair Faber (Presenter); Howard B Chrisman MD (Presenter)

LEARNING OBJECTIVES
1) Understand economic and operational forces driving consolidation of radiologic practices. 2) Understand the positive and negative aspects of radiologic practice consolidation. 3) Explore key clinical and administrative challenges when approaching a radiology practice merger or acquisition.

SPHA41G • Predicting the Future of Radiology: Medical Center President Perspective

Sharon O'Keefe (Presenter)
1) Describe the key economic drivers of healthcare reform in the near term. 2) Identify how healthcare reform will alter the relationship between Radiology and medical centers. 3) Evaluate future opportunities for Radiology and the evolving delivery system to prosper.

SPHA41H • Teleradiology versus Local Radiologists: Issues and Perspectives

David C Levin MD (Presenter) *

LEARNING OBJECTIVES
1) Become familiar with the advantages of using a teleradiology company. 2) Become aware of the drawbacks of using a teleradiology company. 3) Understand the added value to the hospital of having a fully staffed local radiology group on site.

SPHA41I • Question and Answer Period
Blair Faber (Presenter) ; Howard B Chrisman MD (Presenter) ; Sharon O'Keefe (Presenter) ; David C Levin MD (Presenter) * ; Jonathan W Berlin MD (Presenter) *

RSNA Diagnosis Live™: Neuroradiology and Musculoskeletal Radiology

Wednesday, 04:30 PM - 06:00 PM • E451A

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.

Controversy Session: Lung Cancer Screening: Conflict of 'Dollars and Sense?'

Wednesday, 04:30 PM - 06:00 PM • E450A

LEARNING OBJECTIVES
1) Understand the primary objectives of the NLST. 2) Describe the results of the NLST and assess their potential applications to clinical practice. 3) Assess advantages and limitations of LDCT screening. 4) Consider financial implications of widespread screening.

ABSTRACT
URL

Controversy Session: CT Radiation and Risk: How Certain Are We of the Uncertainties?

Wednesday, 04:30 PM - 06:00 PM • N228

LEARNING OBJECTIVES
1) To understand the source of data that have been used to assess the association between medical radiation exposure and cancer risk. 2) To understand the work that has been done to quantify risk and the uncertainty in those estimates.

ABSTRACT
URL

Controversy Session: Controversies in Radiology: Stroke Penumbral Imaging (An Interactive Session)

Wednesday, 04:30 PM - 06:00 PM • E353B

LEARNING OBJECTIVES
1) Assess the evidence for and against penumbral imaging in acute ischemic stroke. 2) Create multi-modal stroke imaging algorithms based on intended treatment options.

SPSC43A • Stroke Penumbral Imaging: Pro
Controversy Session: The Evolving Role of Image-guided Pulmonary, Hepatic, and Renal Mass Biopsy: Current Indications and Controversies

Wednesday, 04:30 PM - 06:00 PM • S404AB

LEARNING OBJECTIVES
1) To describe the current role of receptor studies in lung biopsy specimens. 2) To report what imaging and biochemical studies are diagnostic of hepatocellular carcinoma obviating the need for biopsy. 3) To describe the current and future indications for renal mass biopsy and why many, if not all small solid masses may need to undergo biopsy.

ABSTRACT

SPSC44A • Pulmonary Biopsy

Elizabeth H Moore MD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSC44B • Liver Biopsy

Fred T Lee MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSC44C • Renal Mass Biopsy

Stuart G Silverman MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

Controversy Session: The Heart of the Matter: Nuclear Stress Test vs CTA for Low to Intermediate Risk Cardiac Patients with Chest Pain

Wednesday, 04:30 PM - 06:00 PM • S404CD

LEARNING OBJECTIVES
1) To review the current literature on cardiac CT in the setting of chest pain with low to intermediate risk. 2) To review the current literature on radionuclide myocardial perfusion imaging in the setting of chest pain with low to intermediate risk. 3) To understand the strengths and weaknesses of radionuclide imaging and MDCT in this particular situation.

ABSTRACT

URL
http://www.mgh-cardiovascimages.org/

Controversy Session: Controversies in Imaging Strategies for HCC in Cirrhosis

Wednesday, 04:30 PM - 06:00 PM • N227

LEARNING OBJECTIVES
1) To understand optimal strategies for using CT and MRI to detect and stage hepatocellular carcinoma. 2) To understand the pharmacokinetic and imaging properties of various MR contrast agents and how to use them to optimize the detection and staging of hepatocellular carcinoma. 3) To learn how to implement the LiRads classification system into routine interpretation of hepatocellular carcinoma on CT and MRI.

SPSC46A • CT vs MR

Rendon C Nelson MD (Presenter) *; Mustafa R Bashir MD (Presenter) *

LEARNING OBJECTIVES
1) To understand the optimal CT and MRI techniques for detecting and staging hepatocellular carcinoma. 2) To learn when CT is a more suitable choice or MRI is a more suitable choice for detecting and staging hepatocellular carcinoma.

ABSTRACT

SPSC46B • MR Contrast Agents (Hepatobiliary vs Purely Extracellular Agents)

Claude B Sirlin MD (Presenter) *; John R Leyendecker MD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSC46C • LI-RADS

Reena C Jha MD (Presenter) *

LEARNING OBJECTIVES
1) To review the LI-RADS classification system. 2) By means of case study, discuss LI-RADS categories, and show both representative and challenging cases and strategies for classification.

ABSTRACT

URL

Controversy Session: Imaging of Inflammatory Bowel Disease: If There Was Only One Choice—What Would It Be? CT or MR Enterography?

Thursday, 07:15 AM - 08:15 AM • E351

SPSC50 • AMA PRA Category 1 Credit ™: 1 • ARRT Category A+ Credit: 1
Moderator
Joel G Fletcher, MD *

SPSC50A • The Argument for CT Enterography

Joel G Fletcher MD (Presenter) *

LEARNING OBJECTIVES
1) To review the medical justification and appropriateness of CT enterography for Crohn’s disease diagnosis and staging. 2) To understand the natural history of Crohn’s disease and the relationship between patient symptoms and biologic activity. 3) To discuss methods for performing CT enterography for Crohn’s disease, and how the technique can be adapted for different patients. 4) To briefly review the imaging findings of Crohn’s disease at CT enterography. 5) To understand the risks of CT enterography. 6) To discuss integration of CT enterography with other tests that diagnose and stage Crohn’s disease (e.g., ileocolonoscopy, capsule endoscopy, MR enterography, fluoroscopy). 7) To discuss relative merits of CT enterography in comparison to MR enterography.

SPSC50B • The Argument for MR Enterography

David J Grand MD (Presenter)

LEARNING OBJECTIVES
1) To review the appropriateness of MR enterography for Crohn’s disease diagnosis and staging. 2) To discuss the technical aspects unique to MR Enterography. 3) To briefly review the imaging findings of Crohn’s disease at MR enterography. 4) To discuss the relative merits of MR enterography in comparison to CT enterography.

ABSTRACT

Hot Topic Session: Multimodality Imaging with MR-PET

Thursday, 07:15 AM - 08:15 AM • E350

SPSH50 • AMA PRA Category 1 Credit ™: 1 • ARRT Category A+ Credit: 1
Moderator
Kathryn J Fowler, MD *

SPSH50A • Advanced PET/MR

Ciprian Catana MD, PhD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH50B • Integration of PET/MR into Clinical Workflow

Kathryn J Fowler MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH50C • Challenges of Attenuation Correction

Martin Judenhofer PhD (Presenter)
RSNA Diagnosis Live™: Radiology Potpourri

Thursday, 03:00 PM - 04:00 PM • E450A

SPDL51 • AMA PRA Category 1 Credit ™:1
Paul J Chang , MD *
Neety Panu , MD, FRCPC
Gregory L Katzman , MD *

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 test their knowledge 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. This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

ABSTRACT
The extremely popular audience participation educational experience is back! Diagnosis Live! is an expert-moderated session featuring a series of interactive case studies that will challenge radiologists' diagnostic skills and knowledge. Building on last year's successful Diagnosis Live! premiere, this session features 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 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.

Hot Topic Session: Metal-on-Metal Arthroplasty Complications

Thursday, 03:00 PM - 04:00 PM • E451A

SPSH51 • AMA PRA Category 1 Credit ™:1 • ARRT Category A+ Credit:1
Moderator
Alice S Ha , MD *

LEARNING OBJECTIVES
1) Identify normal imaging appearance of metal on metal arthroplasty and differentiate from other implant types. 2) Identify the imaging appearance of Adverse Reaction to Metal Debris on various imaging modalities including MR and CT. 3) Understand basic concepts to reduce metal artifacts in CT and MRI in imaging hip arthroplasty patients. 4) Understand role of imaging-guided procedures in ARMD diagnosis.

SPSH51A • Metal-on-Metal Arthroplasty Complications: History and Controversies

Alice S Ha MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH51B • Various Imaging Appearances of Adverse Reaction to Metal Debris (ARMD)

Theodore T Miller MD (Presenter)

LEARNING OBJECTIVES
View learning objectives under main course title.

Hot Topic Session: MR Quantification Techniques in the Liver (Fat, Iron, Fibrosis)

Thursday, 03:00 PM - 04:00 PM • E350

SPSH52 • AMA PRA Category 1 Credit ™:1 • ARRT Category A+ Credit:1
Moderator
Claude B Sirlin , MD *

LEARNING OBJECTIVES
1) Understand the relative accuracy and performance of US, CT and MRI for the detection and quantification of hepatic steatosis. 2) Understand the fundamentals of emerging confound-corrected MRI methods to quantify liver fat content.

SPSH52A • MR Quantification of Liver Fat

Scott B Reeder MD, PhD (Presenter)

LEARNING OBJECTIVES
1) Understand the relative accuracy and performance of US, CT and MRI for the detection and quantification of hepatic steatosis. 2) Understand the fundamentals of emerging confound-corrected MRI methods to quantify liver fat content.

SPSH52B • MR Quantification of Liver Iron

Diego Hernando PhD (Presenter)

LEARNING OBJECTIVES
1) Understand the fundamentals of MR methods to quantify liver iron. 2) Understand the main advantages and disadvantages of different methods.

ABSTRACT
Assessment of liver iron levels is necessary for detection and quantitative staging of iron overload, and monitoring of iron-reducing treatments. This lecture discusses the need for non-invasive assessment of liver iron, and reviews qualitative and quantitative methods with a particular emphasis on MRI. Methods that are in clinical use, as well as their limitations, are described. Remaining challenges, unsolved problems, and recently introduced techniques to provide improved characterization of liver iron deposition are discussed.

URL
LEARNING OBJECTIVES
1) Briefly review different MR-based techniques to evaluate liver fibrosis. 2) Understand the fundamentals of MR elastography. 3) Understand the performance of MR elastography for evaluating liver fibrosis.

Hot Topic Session: Amyloid Imaging

Thursday, 03:00 PM - 04:00 PM • S404AB

LEARNING OBJECTIVES
1) Describe the role of amyloids and FDG PET imaging for tracking the progression of Alzheimer's disease from preclinical stage to dementia. 2) Properly choose amyloid imaging, MRI and FDG PET for the differential diagnosis of dementia. 3) Learn the appropriate use criteria for amyloid PET.

SPSH54 • Amyloid PET and FDG PET across the AD Spectrum: Redundant or Complementary?

Alexander Drzezga MD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH54B • Multimodality Imaging and the Role of Amyloid PET in Differential Diagnosis of Dementia

Kejal Kantarci MD, MS (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

SPSH54C • Appropriate Use Criteria of Amyloid PET

Satoshi Minoshima MD, PhD (Presenter) *

LEARNING OBJECTIVES
View learning objectives under main course title.

ABSTRACT
This session will review the Appropriate Use Criteria for Amyloid PET Imaging published in 2013 by the Amyloid Imaging Task Force jointly supported by the Society of Nuclear Medicine and Molecular Imaging (SNMMI) and Alzheimer's Association (AA) and discuss various clinical scenarios in which amyloid PET imaging is appropriate and not appropriate in dementia workup.

Hot Topic Session: From Irene to Sandy: How to Keep a Digital Department Running during a Natural Disaster

Thursday, 03:00 PM - 04:00 PM • S403A

LEARNING OBJECTIVES
1) Understand the challenges of natural disasters to a radiology department. 2) Learn about the dangers to patients, personnel and equipment posed by natural disasters. 3) Explore methods to maintain operation of essential radiologic services during natural disasters. 4) Understand how to recover a radiology dept from natural disasters.

Hot Topic Session: Clinical 'Killer Applications' for Spectral CT

Thursday, 03:00 PM - 04:00 PM • S403B

LEARNING OBJECTIVES
1) Understand the advantages of using spectral CT over conventional CT. 2) Learn about state-of-the-art clinical applications of spectral CT. 3) Assess future potential applications of spectral CT to clinical practice.

SPSH56 • The Physics behind Spectral CT - What Is Possible Today and Tomorrow?

Mats Danielsson PhD (Presenter) *
Friday Imaging Symposium: MR Imaging of Common Musculoskeletal Injuries (An Interactive Session)

Friday, 12:30 PM - 03:00 PM  •  E350

SPMK61 • MR of the Menisci
Moderator
Mark D Murphey, MD

LEARNING OBJECTIVES
1) To recognize the common patterns of meniscal injuries on MR imaging and their clinical importance. 2) To identify the MR appearance of hip labral tears and patterns of femoroacetabular impingement syndrome (FAI). 3) To describe the common MR patterns and locations of rotator cuff tears and the importance of associated tendon retraction and muscle atrophy. 4) To recognize the patterns of injury and MR appearance associated with cruciate and collateral ligament injuries of the knee.

SPMK61A • MR of the Menisci
Mark D Murphey, MD (Presenter)

SPMK61B • MR of the Hip Labrum
Donna G Blankenbaker MD (Presenter)

SPMK61C • MR of the Rotator Cuff
William B Morrison MD (Presenter) *

SPMK61D • MR of the Cruciate and Collateral Knee Ligaments
Mini N Pathria MD (Presenter)

Disclosure Index

A
Abbara, S. - Consultant, Perceptive Informatics, Inc Author with royalties, Reed Elsevier Author with royalties, Amirsys, Inc

B

C

D
Danielsson, M. - Stockholder, Koninklijke Philips Electronics NV Stockholder, Sectra AB Stockholder, Prismatic Sensors AB Stockholder, Innovicum AB Stockholder,
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