Radiologic Technologist
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
Thaddeus A. Wilson, PhD, Memphis, TN (Moderator) 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 imagingResolution, 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 SonographyGain, scale, Doppler angle, aliasing/range ambiguity, mirroring, wall filter, color assignment, color bleeding, twinkle artifact, tissue vibration and mirroring.

URL

Active Handout: David M. Paushter

SPPH02

**AAPM/RSNA Tutorial on Equipment Selection: MRI**

Saturday, Nov. 28 2:15PM - 4:15PM Location: E351

**MR**  **PH**

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

**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**

SPPH02A  **Update in MRI**

Participants
Edward F. Jackson, PhD, Madison, WI (**Presenter**) Nothing to Disclose

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

**Active Handout:** Edward F. Jackson


SPPH02B  **Primer and Clinical Significance of Artifacts in MRI**

Participants
Timothy J. Carroll, PhD, Chicago, IL (**Presenter**) Nothing to Disclose

**LEARNING OBJECTIVES**
View learning objectives under main course title.
Participants
Alexander Yule, DSc, Cardiff, United Kingdom (Moderator) Nothing to Disclose
Susan Crowley, MEd, RT, Toronto, ON (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) The participant will learn about challenges related to working in a resource limited community. 2) The participant will understand differences in radiology workflow that result from imaging in a resource limited community. 3) The participant will comprehend the importance of working with and recognizing partners involved in a radiology global health initiative to address challenges and have successful outcomes.

ABSTRACT
Radiology enterprises in low-resource settings often have unique challenges as a result of limited infrastructure and funding, difficulty obtaining service and maintenance for equipment, and the need for human resource and capacity building. Successful radiology global health initiatives in resource limited environments require an objective analysis of site Radiology Readiness and open communication with partners bilaterally. As a 501(c)(3) non-profit with United Nations affiliation and official relations with the World Health Organization, RAD-AID International is uniquely positioned to work with local stakeholders, professional organizations, and volunteers to address these needs and have successful outcomes.

Participants
Miriam N. Mikhail, MD, Geneva, Switzerland (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Participants will learn about the role of the WHO in radiology-related public health initiatives, including support of imaging referral guidelines and the launch of AFROSAFE (African counterpart of Image Gently/Image Wisely and EUROSAFE). 2) Participants will learn about the potential for continued and greater collaboration of the WHO and radiology entities: synergies in dealing with priority public health trends.

ABSTRACT
The World Health Organization (WHO), a U.N. agency with a mandate as the directing and coordinating authority of international public health work, facilitates collaboration to promote global health in a strategic, harmonized fashion concordant with specific core functions. With radiology in mind, this presentation provides an overview of some priority public health issues and trends, the increase in global non-communicable diseases and the proportionate need for greater availability of medical imaging, governance and the importance of WHO interaction with radiology-related professional societies and organizations, recurrent problems encountered during medical equipment donations, priority design needs for imaging equipment for use in low-resource settings, radiation protection initiatives, and a few words on the Ebola epidemic and personal protective equipment.

Active Handout: Miriam Niveen Mikhail

LEARNING OBJECTIVES
1) The participant will learn about the role of radiology-specific professional societies in global health. 2) The participant will understand the strategy for seeking and lending expert opinion on global imaging guidelines from an international membership base. 3) The participant will comprehend the importance of having professional societies present to advocate on behalf of imaging professionals on an international level.

ABSTRACT
National radiology-specific professional societies often work with their local governments, representing the perspectives and needs of their members to ensure they are provided with the necessary tools and working conditions required to provide optimal care to their patients. The same proves true on the international level in regards to development and dissemination of guidelines impacting the practice of radiology within a global health perspective. As one of the leading organizations advocating on behalf of imaging
professionals in over 90 countries worldwide, the International Society of Radiographers and Radiologic Technologists (ISRRT) holds official relations with the United Nations and routinely convenes with their key health related agencies on matters affecting the field of radiology.
Got Smart Data? Trailblazing the Path from Insights to Actions in Radiology (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Monday, Nov. 30 10:30AM - 12:00PM Location: S105AB

INA

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

Participants
Patricia Kroken, Albuquerque, NM (Moderator) Nothing to Disclose
Dana Aragon, RT, Albuquerque, NM (Moderator) Nothing to Disclose
Jon Hernandez, Parker, CO (Presenter) Nothing to Disclose
Nicole Newsom, MHA, Greenville, SC, (nnewsom@advbi.com) (Presenter) Employee, MSN Innovative Strategies
Philip Heckendorn, Dallas, TX (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Recognize the importance of innovative solutions in value-based care delivery. 2) Describe Business Intelligence terminology and differentiate the concept of smart, meaningful data in radiology informatics. The value equation will be explored. 3) Examine practical applications of radiology insights that drive quality, efficiency, and collaboration.

URL
http://www.advbi.com/rsna15.html
Participants
David B. Nicholson, Charlottesville, VA (Moderator) Nothing to Disclose
Kathleen Kath, Livonia, MI (Moderator) Nothing to Disclose
Marcus Engel, Orlando, FL, (Marcus@MarcusEngel.com) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Convey the foundation of compassionate care: human presence Utilize “I’m Here” to offer security and empathy to vulnerable patients Recognize that many times, the healing power of human presence is the best (and sometimes only) thing a health care professional can do for a patient. 2) Demonstrate an understanding of individual patient and family needs in a clinical setting Effective communication requires using language and terminology that can be easily processed by the patient and family Interpreting patient and family interactions with an understanding of individual backstories. 3) Implement best practices in patient communication Instill patient confidence by managing up (complimenting co-workers, sharing accolades of the institution, and positive reinforcement regarding excellence in PC.

ABSTRACT
Participants of the session will be reminded of the vital role they play in the healing process of patients. The lecture details the experience of a young patient during hospitalization, the care and compassion shown by health care professionals and the importance of health care professionals to be safe, secure, and appreciated in their role within this sacred field. Participants will also come away with an understanding of each patient and co-workers individuality, unique differences, and appreciation for the role every health care employee plays in the healing of patients and their families. The patient and family experience is absolutely vital in quality, competent, compassionate health care.
AAPM/RSNA Basic Physics Lecture for the RT: Image Quality and Patient Dose in CT and Interventional Radiology

Monday, Nov. 30 1:30PM - 2:45PM Location: S402AB

AMA PRA Category 1 Credits™: 1.25
ARRT Category A+ Credits: 1.50

Participants
Scott J. Emerson, MS, Royal Oak, MI, (scott.emerson@beaumont.org) (Moderator) Nothing to Disclose
Jerry A. Thomas, MS, Wichita, KS, (jerry.thomas@viachristi.org) (Presenter) Stockholder, General Electric Company; Stockholder, Hologic, Inc; Stockholder, Stryker Corporation; Speaker, Medical Technology Management Institute;

LEARNING OBJECTIVES
1) Describe the technical factors which affect patient dose and image quality in CT and IR. 2) Fully participate in CT protocol review and development of new imaging protocols. 3) Describe radiation dose optimization techniques for adult and pediatric patients in CT and IR. 4) Recognize unsafe procedures and operation of CT scanners. 5) Develop methods for ensuring compliance with TJC Diagnostic Imaging Standards in CT which became effective on 01 July 2015.

ABSTRACT
Changes in TJC Diagnostic Imaging Standards and public concern with radiation dose have heightened the awareness and fear of dose in Computed Tomography (CT) and Interventional Radiography (IR). Unfortunately, as these changes have come into effect, the importance of image quality and its relationship to radiation dose may have been overlooked. This session will review technical factors which affect Image Quality and Patient Dose in CT and IR. Emphasis will be placed on practical methods which may be used to develop appropriate imaging protocols. Dose triggers in CT and IR fluoroscopy, the meaning of ALARA applied to staff with expected exposure levels, associated radiation safety design in imaging rooms and personnel training required to assure a culture of safety and imaging excellence will be examined. Finally, suggestions will be provided on how to meet and comply with the new TJC Diagnostic Imaging Services Standard effective July 01, 2015 and NEMA Standards XR-25, 27 and 29.
**LEARNING OBJECTIVES**

1. List the minor adverse reactions that occur with Gd chelate administration, and their incidence.
2. Describe the known interactions of the weaker chelates with laboratory tests.
3. Formulate a strategy for contrast use in renal failure patients, considering the impact of NSF.
4. Describe the phenomenon of dentate hyper intensity, and its link to the weaker chelates.
5. Critique the available agents in terms of overall safety.

**ABSTRACT**

The gadolinium based MR contrast agents (GBCAs) consist of transition metal Gd ions (Gd³⁺) bound very tightly by chelating agents to form a stable complex (minimizing dissociation in vivo), mitigating the substantial natural toxicity of the free metal ion. MR contrast media, specifically the gadolinium chelates, are in general very safe and lack the nephrotoxicity associated with IV administration of the iodinated agents. Nausea, hives, and taste disturbance are the most frequent adverse reactions caused by GBCAs. All of the available GBCAs have the same incidence of these minor adverse reactions, which is substantially less than with the iodinated agents. It should be noted, however, that life-threatening anaphylactoid reactions - although extremely rare - can occur after IV injection of any contrast agent. The GBCAs can, however, be differentiated on the basis of chelate stability, with important implications for clinical use. Nephrogenic systemic fibrosis (NSF) is a serious late adverse reaction associated with exposure to GBCAs in patients with renal insufficiency. In this situation, release of free Gd³⁺ is more likely to occur due to the extended presence of GBCAs within the body. Due to the advent of NSF, administration of three agents (Omniscan, Optimark, and Magnevist) is now contraindicated in several clinical situations (by both the FDA and the EMA), including specifically chronic severe kidney disease. In the last year, administration of multiple doses of Omniscan, in patients with normal renal function, has also been shown to be associated with changes in the globus pallidus and dentate nucleus, raising further questions regarding this agent, the least stable of the GBCAs. Use of only the most stable agents (the macrocyclics) is strongly recommended (Dotarem, Gadovist, and ProHance), with marked preferential use of these agents in developed countries.

**LEARNING OBJECTIVES**

1. List and define the 3 approved labels for implants and devices as it relates to MRI.
2. Name common safety issues as it relates to B0, B1 and time-varying gradient magnetic fields.
3. Describe the benefit of using B1+rms vs. SAR as it relates to heating of implants and devices.
4. Describe how static field relates to heating of implants and devices.

**ABSTRACT**

When performing an MR exam on patients with implants and devices there are many factors to consider as it relates to safety. One must first positively identify the device and then determine the MR labeling and thus the conditions of use. The static (B0) magnetic field can produce torque and translational forces on ferromagnetic objects. Additionally Lenz forces may be encountered with conductive metals. The time-varying gradient magnetic fields have been shown to adversely affect some types of active devices. Radio frequency (B1) fields can result in significant heating and sever burns. It's important for those who are exposing patients to these powerful magnetic fields understand their effects.
The Emperor's Wearing a Speedo! Clinical Challenges with Electronic Health Records (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Tuesday, Dec. 1 8:30AM - 10:00AM Location: S105AB

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

Participants
Dana Aragon, RT, Albuquerque, NM (Moderator) Nothing to Disclose
Patricia Kroken, Albuquerque, NM (Moderator) Nothing to Disclose
Rena Zimmerman, MD, Sequim, WA, (rzimmerman@olympicmedical.org) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Lack of interoperability of systems. 2) Necessity of creating a useful database. 3) Training of personnel and communication with the Information Technology department. 4) Data entry. 5) Copy/Paste - Document bloat - Meaningful Use. 6) Therapeutic relationship with the patient.

ABSTRACT
With the passage of the Patient Protection and Affordable Healthcare Act, electronic health records (EHR) are being widely adopted in all healthcare settings. While there are many possible benefits to widespread adoption of EHRs, there are inherent clinical challenges that must be addressed to improve outcomes. These will be illustrated using examples from my personal experience with different systems as a practicing radiation oncologist and surveyor for the American College of Radiology.
Economics in Imaging/Business Intelligence (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Tuesday, Dec. 1 10:30AM - 12:00PM Location: S105AB

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

Participants
William A. Undie, PhD, RT, Houston, TX (Moderator) Nothing to Disclose
Morris A. Stein, BArch, Phoenix, AZ (Moderator) Nothing to Disclose

Sub-Events

**MSAS32A**  
**One Hospital’s Experience: Tightening the Belts Using LEAN and Green Methodologies**

Participants
Janet Champagne, MBA,RT, Houston, TX (Presenter) Nothing to Disclose  
Alex Koroll, Houston, TX (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Learn the value of implementing LEAN and Six Sigma Green Belt tools and processes to improve patient and employee satisfaction. 2) Demonstrate understanding of the seven elements of waste and apply methodologies to eliminate or improve its negative impact in your workflows. 3) Utilizing the Six Sigma processes to gain credibility and demonstrate value within the organization.

**MSAS32B**  
**Using Evidence Based Design to Increase Operational and Planning Efficiencies**

Participants
Carlos L. Amato, Los Angeles, CA (Presenter) Nothing to Disclose

**LEARNING OBJECTIVES**

1) Learn how to apply evidence based design planning and design principles to improve efficiency and patient satisfaction. 2) Understand how to plan an "intelligent" department that is flexible enough to deal with imaging complex processes and constant technology changes. 3) Understand why good design is good business.
Radiation Safety and Dose Optimization (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Participants
Richard Evans, London, United Kingdom (Moderator) Nothing to Disclose
Louise Coleman, London, United Kingdom (Moderator) Nothing to Disclose

Sub-Events
MSAS33A  Dose Optimization in Pediatric Cardiology

Participants
Sonyia L. McFadden, MD, Antrim, United Kingdom, (s.mcfahren@ulster.ac.uk) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Comprehend current levels and risks of radiation exposure in Paediatric Interventional Cardiology (PIC). 2) Be able to calculate Local Diagnostic Reference Levels (LDRD). 3) Identify the different Interventional cardiology (IC) protocols currently used across the UK/Ireland and their impact on radiation dose/image quality. 4) Apply best practice in PIC.

ABSTRACT
The number of pediatric interventional cardiology (PIC) procedures being performed has increased rapidly in recent years due to their reliability and cost effectiveness. However, interventional cardiology procedures have been reported to contribute to the highest doses of radiation to patients from medical examinations. Previous authors have estimated DRL for PIC and identified a wide variation of radiation exposure to the patient. The effect of different scatter removal techniques on radiation dose and associated DNA damage was also investigated by quantifying γH2AX-foci as a biomarker of radiation-induced effect. Results: Wide variations in imaging protocols are currently being used across different hospitals. These variations in practice have a significant impact on the resultant radiation dose to the patient. Results of experimental studies on anthropomorphic phantoms showed that radiation dose reductions of 30% to 50% could be achieved by removing the anti-scatter grid, introducing an air gap and decreasing the frame rate with minimal impact on image quality. Radiation-induced DNA damage is evident in patients undergoing PIC procedures and mean γH2AX-foci can be significantly greater in different hospitals depending on the protocol used. Conclusion: Great variation in radiation exposure exists across hospitals performing similar examinations on similar sized patients. There is a clear need for standardised protocols and guidelines. The anti-scatter grid should be removed routinely for newborn and infant patients undergoing PIC. The air gap should be introduced when possible. Clinical relevance/application: Simple modifications to clinical protocols will ensure the radiation dose to pediatric patients is kept ALARA without affecting image quality or diagnostic efficacy.

MSAS33B  Learning from Errors and Near-Misses

Participants
Sarah Peters, Didcot, United Kingdom, (sarah.peters@phe.gov.uk) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Identify common causes of errors and near-misses in the UK. 2) Describe the way errors and near-misses are investigated and reported in the UK. 3) Compare several approaches to disseminating learning from errors and near-misses.

ABSTRACT
Healthcare professionals have a duty to inform their employer when things go wrong, regardless of whether it leads to actual harm. In turn employers should create an environment where staff members are supported and encouraged to report errors and near-misses. The World Health Organization (WHO) defines an error as "the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors may be errors of commission or omission, and usually reflect deficiencies in the systems of care". The first stage in learning from an error is to investigate not just the 'who was involved, what happened and when?' but more importantly the 'why did it happen?' These investigations should seek to establish the facts surrounding the error rather than apportion blame, unless there was obvious malicious intent. Error investigations should also include recommendations and changes to systems of work and procedures that will lead to improvements in patient safety and prevent recurrence. For every error or incident, many more near-misses will occur. The reporting and subsequent investigation of near misses can reduce the chances of an actual error occurring. No system is perfect, especially when human beings play an integral part in the process. The key point is that when errors and near-misses occur, organisations and individuals must learn from them and also ensure that this learning is shared. This could be on a local, regional or even national level to avoid the same mistake happening over and over again, at multiple locations and impacting the lives of numerous patients. This presentation will look at common errors and near-misses from a UK perspective as well as a number of approaches that are used both locally and nationally to ensure that learning is shared amongst the Radiology community.
MSAS34A Educating the Technologist for Future Practice -The United States Perspective

Participants
Lynne Roy, MBA, MS, Los Angeles, CA (Moderator) Nothing to Disclose
Steven P. DeColle, Edmonton, AB (Moderator) Nothing to Disclose

LEARNING OBJECTIVES
1) Attendees will learn the additional curriculum that is needed to formally educate technologists who operate hybrid equipment. 2) Attendees will be able to compare educational practices in the United States and in Canada. 3) Attendees will understand the opportunities and challenges that certified technologists face when cross training in different imaging disciplines and will be able to proactively mitigate some of these hurdles.

ABSTRACT
Imaging technology is evolving faster than we can develop technologists to competently perform molecular and cross sectional imaging. Both Canada and the United States have designed curriculum that address these essential learning modules. These two educational models will be compared, contrasted, and discussed in detail. In addition, the practicing technologist must be given an opportunity to learn this new technology and to safely and effectively operate it to deliver the necessary information so that the patient can reap the benefit of this technology. This path can be challenging but if undertaken in a planned fashion, and using lessons from the field to mitigate hurdles, on the job training can produce very competent, dual licensed and credentialled individuals.

Sub-Events

MSAS34B Lessons from the Field: Becoming a Hybrid Technologist

Participants
Mark C. Hyun, ARRT, Los Angeles, CA, (mark.hyun@cshs.org) (Presenter) Technical Consultant, Astellas Group; Speakers Bureau, Astellas Group

LEARNING OBJECTIVES
View learning objectives under main course title.

Active Handout:Mark C. Hyun

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

LEARNING OBJECTIVES
1) To describe the principles of face transplantation from a surgical perspective. 2) Protocols for evaluation of bony structures, including 3D printed models. 3) Pre- and post- face transplantation vascular imaging to define and follow-up the vascular anastomoses. 4) Detail insights of transplantation biology enabled by 320-detector row CT.

ABSTRACT
Face transplantation is now accepted as the only option to restore form and function in patients with severe facial deformity. The transplanted tissue comes from an organ donor and is called an "allograft". The allograft tissues can include bone, regions of forehead, eyelid, nose, lips, chin, and cheeks. Surgical planning uses CT, MR, and 3D printed models typically printed from CT images. For all steps, the radiology technologist plays a critical role working in concert with the radiologists and surgeons. Bone is shown in 3D reformatted images and 3D printed models. The vascular anastomosis is the most critical aspect for successful engraftment. CT angiography (CTA) noninvasively images vessels for anastomoses. Patients typically have altered vascular anatomy of the external carotid circulation because of the injury and/or lesions that require face transplantation. Both arterial and venous mapping is required. Post-operatively, both CTA and MRA are used to evaluate patients for surveillance and when potential complications arise. Volumetric rendering of all relevant structures is important in surveillance and can be achieved by 3D printing soft tissue structures. Post-operative CTA has yielded insights to the vascular physiology and pathology of tissue transplantation.
Participants
Barbara J. Smith, BS, Portland, OR (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Explain obesity statistics and issues related to radiography. 2) Discuss sensitivity training and communication. 3) Identify transportation and transfer of obese patients for safety of patient and personnel. 4) Describe imaging challenges and how to locate anatomical landmarks. 5) Examine exposure related issues.

ABSTRACT

Obesity is affecting an increasing number of people throughout the world and is a growing global health problem. This presentation will define various degrees of obesity, review the statistics and discuss some of the health impacts. Included is a discussion of equipment specifically designed for transportation and the transfer of obese patients. Radiographic equipment designed to image obese patients will be included. The dignity of the patient should be kept in mind so patient care issues such as sensitivity training and communication require us to be more aware of the issues of obesity. There are many imaging challenges associated with obese patients and it is important to understand that the bony skeleton and organ locations have not changed, but it is difficult to locate common positioning landmarks. A new technique for locating anatomical landmarks will be presented to assist with positioning accuracy. Exposure factor use for images and how it affects the radiographic tube will be covered. Additional considerations will be discussed relating to image receptor size, collimation, focal spot size, grid use, AEC and dose.

Active Handout: Barbara Joeine Smith

Participants
Donna L. Long, RT, Indianapolis, IN (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Discuss best practices in digital radiography. 2) Comprehend and analyze ASRT position statements and practice standards pertinent to best practices. 3) Analyze the effects of technical factor selection on the digital image. 4) Discuss and apply quality control issues in digital imaging. 5) Analyze and apply exposure indicator systems and values.

ABSTRACT
Digital Radiography has been in practice for quite some time. However we are still working to provide education and best practices for technologists and students regarding the use of digital imaging versus film/screen equipment. This presentation will cover best practices in digital radiography referencing the ASRT white paper, position statements and practice standards. Recommendations regarding future research will also be presented.

Active Handout: Donna L. Long

Participants
Ken L. Schreibman, PhD, MD, Madison, WI (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) To get a better understanding of 3 common fracture patterns in the foot/ankle: a. Ankle twisting injuries and the Weber staging system. b. Fracture/dislocations of the Lisfranc joint c. Fractures of the proximal 5th metatarsal, distinguishing between avulsion and Jones fractures.

Active Handout: Ken L. Schreibman

Participants
Jonathan Mazal, MS, RRA, Bethesda, MD (Presenter) Nothing to Disclose
Toby Rogers, BA, MRCP, Bethesda, MD (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Define interventional cardiovascular magnetic resonance (iCMR). 2) Compare advantages and disadvantages of MRI versus other imaging modalities to guide cardiovascular interventions. 3) Describe personnel and infrastructure requirements to start an iCMR program. 4) Identify current clinical applications of iCMR. 5) Review pre-clinical applications of iCMR to inform future clinical directions.
Participants
James Stirling, DCR, DMS, Middlesex, United Kingdom, (james.stirling@kcl.ac.uk) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) To learn the anatomy and common pathology of the prostate gland. 2) To learn the factors and how to optimise prostate sequences eg. T1, T2 and STIR whole pelvis sequences, small field of view T2 axial, sagittal and coronal sequences, diffusion weighted imaging, contrast enhanced T1 and T2* dynamic sequences. 3) To learn how different sequences are used with primary, secondary and metastatic prostate cancer. 4) To give a taste of hybrid PET/MR 18F Choline imaging.

ABSTRACT
Over the last couple of years MRI of prostate cancer has moved from just T1 and T2 imaging to multi-parametric, multi-modality imaging. To produce high quality imaging, sequence parameter factors have to be optimized, balancing clinical requirements with patient comfort, total on-table time, scanner capabilities and limitations. The lecture will include prostatic anatomy and how different sequences can characterize benign and malignant disease. The talk will show the sequences that are needed and how to optimize them. This will include T2 small field of views, diffusion weighted imaging, T1 and T2* dynamic contrast enhanced sequences and intrinsic susceptibility weighted imaging. As prostate cancer develops and is treated the imaging protocols change. The protocols include surveillance and staging and then progress to recurrence and metastatic whole body imaging. MRI is now being complemented with PET in hybrid machines combining the strengths of both modalities. This lecture will show how MR imaging of malignant prostate disease changes as the disease progresses.
Participants
Joseph E. Whitton, MS, RT, Stony Brook, NY (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Define a variety of challenges to the delivery of healthcare services in remote areas of developing nations. 2) Identify the limited physical resources being currently utilized in rural hospitals in Kenya. 3) Assess the need for standardized procedures and education as a key component to the advancement of healthcare delivery in this region of the world.

ABSTRACT

Description: This presentation will discuss the experience of delivering healthcare as a participant in a medical mission to the remote area of Meru, Kenya. Healthcare providers in this region struggle to meet the challenge of treating as many people as possible with very limited resources. Healthcare professionals from Stony Brook University worked with hospital staff to share methods and procedures to help them in this endeavor. We found that equally important as is the need for material goods is the necessity of education to use and maintain them properly.

Outline:
I Purpose of the SBU Medical Mission to Kenya
   Background
   Connections across the globe
   Members of the mission team
   Medical Imaging as new members

II Life in Meru, Kenya
   Geography and history of the region
   Cultural Challenges
   Healthcare delivery challenges

III Consolata Mission Hospital
   Physical facilities and hospital infrastructure
   Available technology
   Limited supplies and resources

IV What Can We Do to Help?
   Equipment and supplies
   Education
   Standardized procedures
   Equipment maintenance
Participants
Courtney Sullivan, MS, RRA, New York, NY, (cls2007@med.cornell.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) Define approaches to providing patient-centered care through radiology consultation activities. 2) Identify the value of the role of the registered radiologist assistant in the patient care setting. 3) Understand ways in which radiology consultation can increase the standard of care in a changing healthcare environment.

ABSTRACT

In a changing healthcare environment, the ability to provide patient-centered care has become increasingly more important. Aligning with healthcare reform initiatives, consultation provides an ideal opportunity to promote informed decision making, increase education, and facilitate communication between patients, radiologists and referring physicians. While radiology consultation has traditionally been a part of standard clinical practice, the current fee for service payment model and technologies such as PACS have limited the availability of the radiologist. Through an organized consultation service, the role of the Registered Radiologist Assistant offers potential to help alleviate radiologist workflow constraints that come with participating in non-interpretive tasks. In reviewing this model, this session will focus on radiology consultation and ways to promote patient-centered imaging, ultimately increasing the quality of care that is received.
Participants
Adrienne Coya, MS, RRA, New York, NY, (abc2011@med.cornell.edu) (Presenter) Nothing to Disclose

LEARNING OBJECTIVES
1) Define key 3D post processing terminology and techniques. 2) Identify where 3D post processing can improve diagnostic accuracy on CT and MRI exams. 3) Examine the role of 3D post processing in surgical and treatment course planning.
Participants
Robert C. Chatelain, RT, Ottawa, ON (Presenter) Nothing to Disclose

LEARNING OBJECTIVES

1) To identify normal anatomy and its variants demonstrated by CT of the urinary system. 2) To explain the value of having specific dedicated protocols for the renal and urographic imaging. 3) To differentiate renal and urographic pathologies by origin (congenital, neoplastic, vascular etc.)

ABSTRACT

The urinary system is subject to a wide variety of pathological processes and anatomical variants. Fortunately, it lends itself well to being imaged by a range of modalities. This presentation will focus on the imaging of the urinary system using Computed Tomography (CT). Due to high spatial resolution, CT is an excellent tool to evaluate stones, masses, traumatic injuries and infections. Non contrast CT is the procedure of choice to evaluate kidney stones. CT is also used to differentiate malignant from nonmalignant renal masses, to evaluate the local spread of a renal malignancy and CT angiography (CTA) is an excellent tool to define the anatomy of the renal arteries and veins.