

Emergency Imaging

Critical Care Emergency Ultrasound

Faculty: J. Matthew Fields, MD, FACEP

The practicing emergency physician needs to be able to utilize ultrasound effectively in the evaluation of the critically ill patient. The speaker will highlight the use of ultrasound to perform an EFAST scan, to dynamically monitor & measure the IVC in the setting of hypovolemic shock, & to detect pericardial effusion & perform ultrasound guided pericardiocentesis. (This course is a prerequisite to the "Critical Care Emergency Ultrasound Lab.")

- List the indications for point-of-care ultrasound in the management of the critically ill patient.
- Apply techniques to maximize sensitivity & specificity of EFAST scan imaging in difficult patients.
- Demonstrate ability to identify & accurately measure the IVC & apply to management of hypovolemic shock.

Imaging Overtesting and Overuse: Just How Dangerous Is It?

Faculty: Jeremy Samuel Faust, MD, MS, FACEP

Modern medicine is rife with over testing and overuse and emergency medicine is not immune. Over testing is expensive, time-consuming, and a poor use of limited resources. But how just how dangerous is over testing to patients? This course will take a close look at several key drivers of over testing, with a special eye on imaging. How bad is one CT scan for a patient? Does age matter? How bad are many CTs, over many years? What are the other downstream effects of over-imaging? On the other hand, some of the risks of over testing have been overplayed. For example, do we really need to worry about contrast-induced nephropathy? Probably not. We will look at the latest data. In addition, this lecture will touch on the downsides of overuse of ultrasound.

- Describe over testing and overuse, with an emphasis on imaging, and its overall impact on limited resources.
- Identify some of the patient-centered harms of over testing/over-imaging.
- Debunk myths about over testing/over-imaging.
- Discuss meaningful use criteria.



Seeing Soundwaves: Ocular US

Faculty: Joshua S. Broder, MD, FACEP

While your differential for vision changes may be great, the dilated eye exam is a thing of the past in the ED. Harness the power of soundwaves & put a probe on the eye to discover what might be going on without the help of an ophthalmologist. The speaker will review the basics of ocular ultrasound & ways to incorporate it into your practice.

- Describe the indications for ocular ultrasound.
- Recognize the most common retinal & vitreous pathology on ocular ultrasound.
- Describe the pearls & pitfalls of ocular ultrasound for approximating ICP in patients.

Beyond Good, Bad, or Ugly: Advanced Echocardiography

Faculty: Christopher J. Gelabert, MD, FACEP

As ultrasound becomes more ubiquitous, our skills at bedside diagnostics grow. Echocardiography presents an opportunity to provide a great deal of information beyond basic qualitative assessment of function. This session will introduce attendees to some of the fundamental approaches of quantitative echocardiography, that may better inform management decisions of patients presenting in a variety of conditions, from heart failure to septic shock.

- Describe the ultrasonographic cardiac anatomy.
- Recognize the utility of quantitative echocardiographic measurements in the ED.
- Describe echocardiographic techniques to assess LVEF, RV function, & diastology.

Emergency Ultrasound 101: 10 Things You Need to Know for Your Community ED Gig

Faculty: Benjamin C. Smith, MD, FACEP

The range of clinical applications that point-of-care ultrasound (POCUS) is being used for is rapidly expanding in the recent years. However, use of POCUS may be limited by time constraints in the busy community emergency department. Ever gone to a lecture & wished they had discussed how POCUS can be efficiently utilized in a busy community ED. Well, here it is - the top 10 POCUS applications for emergency physicians working in a community ED. Attend this lecture to find out the must-learn high-yield POCUS applications that can be rapidly done, impact patient care, & generate reimbursement.

- Describe the top 10 point-of-care ultrasound applications for emergency physicians working in a community ED.
- Incorporate high yield point-of-care ultrasound applications efficiently into busy ED clinical practice.
- Illustrate pearls & pitfalls of high-yield diagnostic point-of-care ultrasound techniques.

Handy Skills: Reading a Hand/Wrist X-Ray

Faculty: Chris Courtney, MD, FACEP

Few anatomical areas are as hard to remember as the wrist & hand, yet it is one of the most common plain films ordered in the ED. This session will be a high yield review of the anatomy & provide an approach to reading these common x-rays. Common injury patterns to the hand & wrist will then be emphasized in this case-based quick hit session.

- Identify the osseous anatomy of the hand & wrist.
- Describe an approach to reviewing the hand/wrist x-ray.
- Describe the five most important injury patterns of the hand/wrist that are found with plain film imaging.

Image That: High Yield Imaging Practices

Faculty: Kevin King, MD

Over the last few decades, the array of imaging modalities available to emergency physicians has exploded. From cutting-edge ultrasound to the plain film radiograph, each modality has its strengths, weaknesses and uses. If an abdominal CT scan is normal, is an ultrasound required to exclude cholecystitis? Is there a role for plain films in the evaluation of the spine in trauma patients? What is the best strategy in the child with right lower abdominal pain? Using clinical cases and actual images, the presenter will discuss several clinical scenarios where multiple imaging modalities could be applied and the benefits of each.

- Identify the major types of imaging modalities used in emergency medicine and the overall strengths and weaknesses of each.
- Discuss different approaches to imaging commonly encountered clinical entities in the emergency department.
- Develop evidence-based strategies for high-yield imaging in you emergency practice.
- Discuss utilizing Best Practice when choosing the appropriate imaging modality.

Orthopedic Radiographic Diagnosis Not to Miss

Faculty: Chris Courtney, MD, FACEP

Expertise in interpreting orthopedic plain film radiography remains a vital skill for emergency physicians. Most often, they are the first to interpret plain films & they receive the official radiologist interpretation at a later time. An otherwise disabling diagnosis occasionally can be made based on plain film radiography alone. Using case studies, the speaker will review scenarios of potentially disabling radiographic diagnoses that are commonly missed by the initial interpretation.

- Identify at least five orthopedic plain film diagnoses that must not be missed.
- Describe key radiographic findings to identify and recognize commonly missed orthopedic injuries.
- Review confirmatory studies (CT, US, MR) required to secure a diagnosis in these cases.

Pocket and Portable Ultrasound Machines: Pros and Cons

Faculty: Christopher J. Gelabert, MD, FACEP

Ultrasound technology has turned a new corner in the area of affordability and portability in the last several years. This new technology has led to wireless ultrasound transducers, transducers that plug into personal devices, and transducers that use semiconductors instead of crystals. This emerging technology has the ability to take ultrasound from cart to pocket, but these advances are not without challenges. There are physical, political, and regulatory obstacles the emergency physician has to navigate. The speaker will discuss the specific benefits and barriers as they pertain to handheld ultrasound.

- Define handheld ultrasound.
- Describe current and upcoming ultrasound technology and how it applies to the emergency physician.
- Discuss advances and advantages of handheld technology.
- Identify pitfalls and obstacles to utilizing this technology in the emergency department.

Procedural Ultrasound

Faculty: Arun Nagdev, MD

The use of ultrasound by emergency physicians to help perform procedures is becoming more frequent. Some of these may soon be considered standard of care & some are useful in selected situations. The speaker will discuss procedural applications for ultrasound that the emergency physician can easily incorporate into daily clinical practice. (This course is a prerequisite to the "Procedural Ultrasound Lab.")

- Demonstrate ability to perform ultrasound-guided central venous catheter placement.
- Demonstrate ability to localize vertebral interspace for lumbar puncture using ultrasound.
- Perform technique for ultrasound-guided pericardiocentesis.

Secrets of the Chest Imaging Masters

Faculty: Kevin King, MD

Interpretation of a chest x-ray is a fundamental skill for emergency physicians who are often the first to review images before a radiologist. Critical decisions about immediate life-saving therapy can depend on expert chest x-ray skills, & subtle hints for crucial diagnoses can lie in the chest x-ray image. The speaker will review secrets of master radiologists, sharing diagnostic pearls & pitfalls for medical, surgical, & traumatic conditions.

- Review a systematic approach to chest x-ray interpretation.
- Identify “can’t miss” diagnoses & radiographic findings.
- Describe high-yield areas of the chest x-ray image.

Soundwaves and Soft Tissues

Faculty: Starr Knight, MD

Ultrasound can help the provider quickly diagnose and manage common musculoskeletal injuries in the ED without having to wait for advanced imaging such as a CT or MRI. Focused sonography by the emergency physician also provides a rapid cost-effective evaluation of pathology. The speaker will use a case-based approach to the application of musculoskeletal sonography in the ED.

- Describe how to use POCUS for shoulder dislocation including using the interscalene block.
- Review how to use POCUS to identify joint effusions (shoulder, hip, knee, ankle, tenosynovitis) and its use for arthrocentesis.
- Describe how to use POCUS to identify various tendon ruptures.
- Discuss how to utilize US to identify abscess and foreign bodies.

Tapping A Joint

Faculty: Benjamin C. Smith, MD, FACEP

Some of us learned arthrocentesis before the age of ultrasound, others spent their entire residency with probe in hand. Regardless of your background, this session will improve your joint-tapping skills. The speaker will run the gamut of appropriate imaging technique, procedural tips for joints large & small & even discuss interpreting your results. Don't miss this opportunity to be the EM physician to out-tap your orthopedic colleagues!

- Describe how to diagnose joint effusion on point of care ultrasound.
- Acquire the skills to perform ultrasound guided arthrocentesis of the knee, hip, ankle, elbow, & wrist.
- Interpret & treat synovial fluid laboratory analysis.

Ten Most Commonly Missed Radiographic Findings in the ED

Faculty: Christopher J. Gelabert, MD, FACEP

As an emergency physician you need to know the most commonly missed radiographic findings that can lead to morbidity & malpractice. The speaker will highlight the most commonly missed x-ray & CT findings by emergency physicians. The speaker will also discuss strategies for reading these films so that you don't miss one of these findings on your next shift.

- Review the most frequently missed findings on commonly ordered ED x-rays & CTs.
- Discuss the medical & financial scope of radiographic misinterpretation.
- Review strategies & tips to help the emergency physician improve their interpretation skills.

Trauma Radiology: High Yield X-ray and CT Findings

Faculty: Kevin King, MD

The CT scan in trauma has become the standard of care in ruling out splenic, liver, aortic, pulmonary, intracranial, & aortic injury. The presenter will review the major findings that must be looked for on the trauma CT. Tips to rapidly & efficiently review the CT as well as a review of differentiating bleeding in different organs from normal tissue will be provided.

- Discuss the utility and important findings of chest and pelvic plain films in trauma.
- Review a CT of the head, neck, chest & abdomen, & incorporate these techniques into your clinical practice.
- Identify the most important findings on CT scan in the trauma patient and how to differentiate acute bleeding on CT scan.
- Discuss opportunities to reduce radiation exposure in the trauma patient.

Ultrasound-Guided ACLS Resuscitation

Faculty: Rachel B. Liu, MD, FACEP

How did your last ACLS resuscitation go? Unclear as to the underlying cause? Was it medication or fluids that was really needed? Not sure when to cease heroic efforts? Ultrasound gives valuable information in guiding resuscitation efforts; we just have to know how to use it during this critical time. Join our speaker & learn proper timing, alternate windows & become a master at US-guided ACLS resuscitation.

- Explain options for timing of ultrasound performance within ongoing ACLS.
- Describe how to achieve modified versions of standard views when critical equipment impedes standard probe positioning.
- Explain how to guide ACLS & treatment pathways using ultrasound findings.