

Trauma Course Schedule

8:00-8:45 Introduction and Course Objectives

The lecturer will go over the specific objectives of the course: ultrasound physics, instrumentation, primary emergency ultrasound indications, how to document and suggested quality monitoring. Ultrasound's role and what differentiates emergent ultrasonography from formal consultative studies including the relative advantages and pitfalls.

8:45-10:00 Physics and Instrumentation

Basic physics needed to operate the machine, understand image generation and optimization, recognize and understand ultrasound artifacts.

10:00-11:00 Ultrasound Instrument Orientation
(*Hands-on*)

Initial orientation to ultrasound instrumentation. One instructor and instrument per 5 students. Emphasis on gain, output, TGC, and hard copy generation.

11:00-12:00 Rapid Trauma Ultrasound Exam

Learn the FAST exam for trauma. Review normal and abnormal scans in thoraco-abdominal trauma. Review the literature including the recommended algorithms (Key Clinical Pathway) for emergency department application. Review the limitations of this exam.

12:00-12:45 Lunch

12:45-1:30 Cardiovascular Applications

Primary emphasis on cardiac and pericardial imaging to include primary and secondary windows, recognition of pericardial effusion and tamponade, and indications and limitations for cardiac arrest and PEA. Vascular sonography will cover the background and techniques for obtaining ultrasound-guided central and peripheral access.

1:30-1:45 Break

1:45-5:00 Trauma / Cardiovascular Ultrasound
(*Hands-on*)

In depth, repetitive review of the trauma, cardiac, and abdominal aorta exam. Then individual skills evaluation for transducer position, target organ identification, and hard copy image capture for each of the following: RUQ, cardiac, LUQ, Pouch of Douglas, one secondary cardiac view (other than subxiphoid), and long and short axis views of the abdominal aorta. Students will also be shown how to perform ultrasound-guided vascular access using phantoms and then have the vessels identified on a model.