



AACES Ultrasound Life Support Course

Course Description

Specifically designed for healthcare providers who are exploring point of care ultrasound to enhance management of the critically ill patient. Covering six major systems (DHI MAP) in detail, the course presents a systematic and comprehensive assessment with ultrasound, adopting the familiar “A-B-C-D” format used in the major trauma and medical life support curriculums. This focused and targeted evaluation aims to enable a rapid and effective decision making, and improve triage, diagnostic, therapeutic and monitoring capabilities.

Lectures are condensed and delivered in an interactive format. The Hands-on Training is the cornerstone of the program. During these sessions, trainees will be guided to perform bedside scans on volunteers. With 5 hours set aside for practical and keeping the trainer to trainee ratio at maximum of 1:4, participants will have ample opportunities to practise during the Hands-on Training sessions.

Learning Objective

Upon completion of this course, participants will learn how to:

- Perform focused assessment of the proximal deep venous system of the lower limbs (DVT), heart (Heart), inferior vena cava (IVC), peritoneal space (Morrison’s pouch), abdominal aorta (Aorta), and lung (Pleural)
- Screen for and identify the 4 major classes of shock: hypovolemic, distributive, cardiogenic and obstructive shock.
- Perform chest ultrasound for the diagnosis of pneumothorax, pleural effusion and interstitial syndrome.
- Perform cardiac ultrasound for the diagnosis of pericardial effusion, systolic left ventricular failure and right heart strain.
- Perform extended-FAST exam for the diagnosis of free intra-peritoneal, pleural and pericardial fluid.
- Perform abdominal exam for the diagnosis of abdominal aortic aneurysm.
- Perform lower limb venous examination for the diagnosis of deep vein thrombosis.
- Perform IVC assessment for collapsibility and distensibility.
- Perform airway ultrasound to locate cricothyroid membrane and cervical oesophagus
- Perform ocular ultrasound to assess pupil reactivity and estimate intracranial pressure
- Perform focused ultrasound during cardiac arrest
- Evaluate for volume status, fluid responsiveness and fluid tolerance.
- Integrate key sonographic findings to guide resuscitation of the critically ill.

Who should attend

Critical care physicians, emergency physicians, physicians, surgeons, anaesthetist, nurse practitioners, residents, medical officers and healthcare workers involved in the management of ill patients.

ACGME-I Competencies

This course is designed to meet one or more of the following ACGME competencies:

- Patient Care
- Medical Knowledge
- Practice-Based Learning and Improvement

Course Programme

0800	Registration & Welcome	1200	<u>Lunch</u>
0810	Introduction D HI MAP. Key Ultrasound findings in the critically ill	1245	Circulation: Arterial Standard abdominal aortic windows. Assessment of abdominal aorta. Pathology: AAA. Pitfalls
0825	Airway Assessment Standard Airway Windows. Identification of cricothyroid membrane. Pathology, tracheal lesions. Pitfalls	1305	Hands-on Training 3 (E-FAST & AAA)
0845	Breathing Standard Lung Windows. Signs of pneumothorax, pleural effusion and interstitial syndrome	1405	Circulation: Venous Standard lower limb deep venous veins windows. Assessment of deep venous system of LL. Pathology: DVT. Pitfalls
0910	Hands-on Training 1 (Airway & Breathing)	1425	Hands-on Training 4 (DVT & ONSD)
0945	<u>Break</u>	1525	<u>Break</u>
1005	Circulation: Cardiac & IVC Standard cardiac & IVC windows. Assessment of pericardial effusion, LV systolic function, RV function. Pathology: pericardial effusion, systolic heart failure, RV dysfunction. Pitfalls	1545	Hemodynamic assessment Evaluation for cardiogenic, obstructive, hypovolaemic and distributive shock. Sonographic assessment of preload, fluid responsiveness and fluid tolerance
1035	Hands-on Training 2 (Cardiac & IVC)	1605	Integration and application Interactive case discussion
1135	Circulation; E-FAST Standard E-FAST windows. Pathology: Haemoperitoneum, hemopericardium, haemopneumothorax. Pitfalls	1645	Admin & Course Closure

AACES Online Lectures

Physics, Knobs and Probes

Essentials of image formation, acquisition and optimization and probe manipulation techniques.
Common Artefacts

Disability: Ocular

Standard optic nerve sheath window. Measurement of ONSD, assessment of pupil reactivity. Pathology:
Raised intracranial pressure. Pitfalls.

*Online lectures will be made available 2 weeks prior to course date. Please review these AACES Online Lectures before the course. **Hands on training will include ONSD assessment.***

Admin

Course material, meals and parking coupons will be provided.

Venue: Khoo Teck Puat Hospital, 90 Yishun Central, S768828.

Website: Visit www.AACES.sg to learn more about AACES and other educational resources.