

**Certificate in Clinician Performed Ultrasound
(CCPU)
Syllabus**

Extended Focussed Abdominal Scan for Trauma (E-FAST)

Disclaimer and Copyright: Content within this curriculum was accurate at the time of publication. This curriculum is subject to Australian copyright law. Apart from any use as permitted by law, no part of this curriculum may be copied, adapted, reproduced or distributed without written permission from The Australasian Society for Ultrasound in Medicine (ASUM). All enquires to be directed to education@asum.com.au.

Extended Focussed Abdominal Scan for Trauma (E-FAST) Syllabus

Purpose

This unit is designed to cover the theoretical and practical curriculum for E-FAST ultrasound.

Prerequisites

Learners should have completed the Applied Physics in Ultrasound unit.

Course Objectives

On completing this course learners should be able to demonstrate:

- Demonstrate an understanding of the appropriate anatomy, physiology and pathology.
- Effectively perform and interpret E-FAST ultrasound.
- Understand the limitations of ultrasound of the chest in trauma.
- Understand the limitations of ultrasound of the abdomen in trauma.

Course Content

The course will present learners with the following material:

Abdominal views

- Liver
- Right Kidney
- Spleen
- Left Kidney
- Bladder
- Uterus
- Bowel
- Intra abdominal free fluid

Cardiac views

- Liver
- Right ventricle
- Pericardium
- Pericardial fluid

Chest views

- Lung sliding
- Pleural fluid
- Pneumothorax

Imaging the Chest

- Be able to image the pleural space via intercostal views.
- Be able to identify normal lung movement in the above views.
- Be able to identify pleural fluid in the intercostal, RUQ and LUQ views and give qualitative estimates of the amount of free fluid.

- Be able to understand the implications of the absence of normal lung movement and the finding of pleural fluid in the clinical setting.
- Understand the limitations of ultrasound of the chest in trauma.

Imaging the Pericardium

- Be able to image the pericardial space via the subcostal window and other windows such as parasternal/apical.
- Be able to identify pericardial fluid in the above view and give qualitative estimates of the amount of free fluid.
- Be able to understand the implications of the finding of pericardial fluid in the clinical setting.

Imaging the perihepatic, perisplenic and pelvic regions:

- Be able to identify free fluid in the above views
- Give qualitative estimates of the amount of free fluid
- Be able to understand the implications of the finding of free intraabdominal fluid in the clinical setting.

Training

- Recognised through attendance at an ASUM accredited eFAST course. (Please see the website for accredited providers)
- Evidence of the satisfactory completion of training course is required for unit award.

Teaching Methodologies for the eFAST courses

All units accredited toward the CCPU will be conducted in the following manner:

- A pre-test shall be conducted at the commencement of the course which focuses learners on the main learning points
- Each course shall comprise at least three (3) hours of teaching time of which at least two (2) hours shall be practical teaching. Stated times do not include the physics, artefacts and basic image optimization which should be provided if delegates are new to ultrasound
- Learners will receive reference material covering the course curriculum.
- The lectures presented should cover substantially the same material as the ones printed in this curriculum document.
- An appropriately qualified clinician will be involved the development and delivery of the course (they do not need to be present for the full duration of the course).
- The live scanning sessions for this unit shall include sufficient live patient models to ensure that each candidate has the opportunity to scan (maximal candidate: tutor / machine ratio of 5:1). Models will include normal subjects and patients with ascites or peritoneal dialysis patients.
- Image interpretation station (or models) should also demonstrate at least one case of pericardial fluid, pleural fluid and pneumothorax.
- A post-test will be conducted at the end of the course to ensure the required learning objectives are met.

Assessments

- Two (2) formative assessments of clinical skills, specifically related to the assessment of eFAST ultrasound

- One (1) summative assessment of clinical skills, specifically related to the assessment of eFAST ultrasound

All assessments are to be performed under the supervision of the Primary Clinical Supervisor using the competence assessment form supplied at the end of this document.

Please refer to section 8 of the [CCPU Regulations](#) for information regarding timing and exclusion of these assessments in the logbook.

Logbook Requirements

- Twenty-five (25) eFAST scans, including:
 - Five (5) positives, demonstrated by free abdominal pleural or pericardial fluid, or pneumothorax
- A maximum of 50% paediatric cases (14 years and under) may be included in the logbook. Record in the column provided.
- All scans must be clinically indicated
- All cases must be compared with gold standard findings (such as comprehensive imaging, pathological findings or if these are unavailable then clinical course)
- All logbook cases must be signed off by a suitably qualified supervisor (see section 6 of the [CCPU Regulations](#))
- At the discretion of the ASUM CCPU Certification Board candidates may be allowed an alternative mechanism to meet this practical requirement

Please note: All assessments and logbooks are required to be completed by the Primary Clinical supervisor as outlined in the CCPU regulations.

Minimal Imaging Sets

The following are proposed as minimal imaging sets for focused ultrasound examinations for the CCPU units. It is understood that in many cases more images should be recorded to fully demonstrate the abnormality. In some cases the patient's condition will not allow the full set to be obtained (e.g. basic echo during CPR or positive free fluid in an unstable trauma patient), in which case the clinician should record whatever images are obtainable during the time available to adequately answer the clinical question without allowing the ultrasound examination to interfere with ongoing medical treatment. If local protocols recommend more images for a particular examination then these should be adhered to.

- Still or cineloop images of RUQ (including Morison's Pouch, tip of liver and base of right hemithorax)
- Still or cineloop images of LUQ (including lienorenal space, tip of spleen and base of left hemithorax)
- Transverse and longitudinal pelvis
- Cineloops of cardiac (subcostal or other window that clearly demonstrates posterior pericardium)
- Anterior right lung and left lung (cineloop or M-mode that clearly demonstrates presence or absence of lung sliding)

ASUM CCPU Competence Assessment Form

E-Fast Ultrasound

Candidate: _____

Assessor: _____

Date: _____

Assessment type: Formative (feedback & teaching given during assessment for education) ☐
Summative (prompting allowed but teaching not given during assessment) ☐

To pass the summative assessment, the candidate must pass all components listed

Prepare patient

Position
Informed

Competent	Prompted	Fail

Prepare Environment

Lights dimmed if possible

--	--	--

Probe & Preset Selection

Can change transducer
Selects appropriate transducer
Selects appropriate preset

Data Entry

Enter patient details

--	--	--

Image Acquisition

Optimisation (depth, freq, focus, gain)

--	--	--

RUQ

Identifies Liver
Rt Kidney
Morrison's pouch
Diaphragm
Lung
Bowel

LUQ

Identifies Spleen
Lt Kidney
Splenorenal recess
Diaphragm
Lung

PELVIS

Identifies Bladder
Iliac vessels
Prostate / Uterus
Rectum
Scans TS & LS

Describes Where abdominal free fluid collects
Where pleural fluid collects
Appearance of fresh and clotted blood

PERICARDIUM / SUBCOSTAL

- Identifies* Liver
Right Ventricle
Left Ventricle
Septum
Pericardium
- Describes* Where pericardial fluid collects
Appearance of fresh and clotted blood

Competent Prompted Fail

LUNG

- Identifies* Rib
Pleura
Comet tail artefact & b lines (if present)
Sliding sign
Able to differentiate lung sliding & cardiac motion on left chest
Able to use M mode & explain its role & limitations
- Describes* Appearance of PTx
Assessment of PTx size
Where pleural fluid collects, and appearance of fresh and clotted blood

Artefacts

- Identifies & explains the basis of common artefacts

--	--	--

Record Keeping

- Labels & stores appropriate images
Documents any pathology identified
Completes report
Each view adequate / inadequate
Documents focussed scan only
Describe findings briefly
Integrates ultrasound findings with clinical assessment and explains how the findings might change management

Machine Maintenance

- Cleans / disinfects ultrasound probe
Stores machine and probes safely and correctly

For Formative Assessment Only:

Feedback of particularly good areas: _____

Agreed actions for development _____

Examiner Signature: _____ Candidate Signature: _____

Examiner Name: _____ Candidate Name: _____

Date: _____