

Certificate in Clinician Performed Ultrasound (CCPU)

Syllabus

Acute Scrotum

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.

Acute Scrotum Syllabus

Purpose

This unit is designed to cover the theoretical and practical curriculum for the Acute Scrotum.

Prerequisites

Learners should have completed the Applied Physics in Ultrasound unit.

Course Objectives

On completing this unit, delegates should be able to:

- Demonstrate detailed understanding of the gross anatomical structure and surface anatomy of the relevant organ systems and the anatomical relationship to surrounding organs and structures.
- Attain proficiency in image optimisation in order to enable appropriate diagnosis
- Demonstrate optimisation and limitations of colour Doppler
- Diagnose an ischaemic testis
- Diagnose epididymo-orchitis

Course Content

Anatomy:

- Relational anatomy of adjacent organs and structures
- Identify mediastinum testis
- Identify epididymis head
- Blood supply – capsular arteries, centripetal arteries, transmedial arteries
- Ultrasonic characteristics of a normal testis

Ultrasound Imaging Protocols, Skills:

- Protocols for scrotal scanning – grey scale and Doppler
- Colour Doppler settings
- Patient positioning

Pathology and Sonographic appearance of:

- Torsion
- Hydroceles
- Epididymitis
- Orchitis
- Simple Cysts

Limitations and Pitfalls

- Inability of ultrasound to exclude torsion - particularly intermittent torsion, partial torsion.
- Masses other than simple cysts require formal evaluation.
- Testicular abnormalities thought due to infection should be reviewed after resolution to exclude underlying pathology.

Training

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

Teaching Methodologies

All courses 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 two (2) hours of teaching time of which at least one (1) hour 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. Models will include normal subjects and patients with appropriate pathologies. Given that it may be difficult to find subjects with sufficient pathology, it is appropriate to include a practical 'image interpretation' session in which candidates must interpret images of the relevant pathology.
- 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 the acute scrotum
- One (1) summative assessment of clinical skills, specifically related to the assessment of the acute scrotum

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

- Fifteen (15) Acute Scrotum scans, including three (3) positives
- 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.

- Bilateral examination for comparison is essential.
- Longitudinal testes x 3 (lateral to medial)
- Transverse testes x 3 (superior to inferior)
- Colour Doppler of each side
- 'Spectacle' view of both testes grey scale
- 'Spectacle' view of both testes with Doppler box comparing flow in both sides.
- Grey scale epididymidis of each side
- Colour Doppler epididymis of each side
- Further views of scrotal thickness and hydrocele or cord abnormality may be indicated on a case by case basis.

ASUM Competence Assessment Form
Acute Scrotum 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

	Competent	Prompted	Fail
Prepare patient			
Position			
Consent / Explanation			
Prepare Environment			
Lights dimmed if possible			
Prepare Machine			
Correct position			
Turn machine on			
Probe Selection			
Can change transducer			
Selects appropriate transducer for indication			
Pre-set selection			
Select correct pre-set			
Data entry			
Enter patient / study details			
Image Optimisation			
Appropriately adjusts machine to optimise image:			
Depth			
Frequency			
Focus (if required)			
Gain / TGC			
Image Acquisition	Competent	Prompted	Fail
Longitudinal View			
Technique Aligns on long axis			
Fans through in longitudinal plane			

Identifies

Teste
Medistinum of teste
Scrotal skin
Epididymis head
Epididymis body (if seen)
Venous plexus
Hydrocoele (if present)

Transverse View

Technique

Aligns on transverse axis
Fans through in transverse plane
Performs comparison view
(grey and colour)

Identifies

Teste
Medistinum of teste
Scrotal skin
Epididymis head
Epididymis body (if seen)
Venous plexus
Spermatic cord
Hydrocoele (if present)

Colour Doppler

Technique

Adjusts Doppler gain and scale
Compares with contralateral side

Identifies

Testicular blood flow
Epididymal blood flow

Image Interpretation

Describes

Appearance of Torsion
Appearance of Epididymitis
Appearance of Orchitis
Appearance of Simple Cyst
Appearance of Hydrocoele

Essential Clinical Knowledge

Understands the aims of the Acute Scrotal Scan

"Rule in" for torsion
Does not exclude torsion
Changes due to infection need follow up
Other abnormalities need formal scan

Competent Prompted Fail

Record Keeping

Stores / prints appropriate images

Writes appropriate report

Documents focussed scan

Machine Maintenance

Cleans ultrasound probe appropriately

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: _____