

Certificate in Clinician Performed Ultrasound (CCPU)

Syllabus

Acute Scrotum

Acute Scrotum Syllabus

Purpose:

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

Prerequisites:

Learners should have completed the ASUM Physics Image Optimisation unit or accredited equivalent course.

Training:

Recognised either through attendance at an ASUM accredited Acute Scrotum course or equivalent.

Assessments:

Learners are required to provide evidence of satisfactory completion of training sessions, supervised ultrasound scans and documentation in a logbook.

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 epididymoorchitis

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.

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 2 hours of teaching time of which at least 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 as formative assessment.

Assessment and Logbooks

- Evidence of satisfactory completion of training sessions
- Evidence of assessment of competence (summative assessment) signed off by a suitably qualified assessor (DDU, Radiographer, DMU or AMS or be a sonographer registered by NZ MRTB in the relevant field, CCPU in the relevant field or other qualification as approved by the CCPU board). The original completed competence assessment form is to be sent to ASUM with the candidate's completed log book.
- Logbook requirements need to be completed, and logbooks need to be submitted within two years of completing an accredited course.

Formative Assessments

- 2 formative assessments (directly supervised with suggestions and advice provided during the scan)

Summative Assessment

- Summative assessment is to be performed by a suitably qualified assessor (see above) using the competence assessment form supplied at the end of this document (or equivalent if deemed sufficient by ASUM at their discretion).

Logbook Requirements

- Evidence of completion of logbook signed off by a suitably qualified supervisor (DDU, Radiographer, DMU or AMS or be a sonographer registered by NZ MRTB in the relevant field, CCPU in the relevant field or other qualification as approved by the CCPU board).
- All cases must be compared with gold standard findings (such as comprehensive imaging, pathological findings or if these are unavailable then clinical course).
- 15 scans (half clinically indicated) with at least 3 positive findings.
- At the discretion of the ASUM CCPU Certification Board candidates may be allowed an alternative mechanism to meet this practical requirement.

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

Longitudinal View

Technique Aligns on long axis
 Fans through in longitudinal plane

Competent Prompted Fail

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:

Agreed actions for development

Examiner Signature: _____ Candidate Signature: _____

Examiner Name: _____ Candidate Name: _____

Date: _____