

**Certificate in Allied Health Performed Ultrasound
(CAHPU)
Syllabus**

Advanced Early Pregnancy Assessment

CAHPU Advanced Early Pregnancy Assessment Syllabus

Purpose:

This unit is designed to cover the theoretical and practical curriculum for 1st trimester pregnancy ultrasound.

Prerequisites:

Learners should have completed the ASUM online Physics tutorial. This unit is suitable for midwives.

Training:

Recognised either through attendance at an ASUM accredited unit presenting the curriculum for the CAHPU advanced early pregnancy assessment unit or equivalent.

Assessments:

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

Unit Objectives

On completing this unit learners should be able to demonstrate:

- Demonstrate a detailed understanding of the anatomical structure of the female pelvis.
- Attain proficiency in image optimisation of the following in order to enable appropriate diagnosis:
 - Cervix
 - Uterus
 - Fallopian tube (often not visible on ultrasound unless abnormal)
 - Ovaries
 - Endometrium
 - Gestational sac
 - Fetus
 - Placenta
 - Normal versus abnormal appearances in first trimester, e.g. Molar pregnancy
- Diagnose an early intrauterine pregnancy and be able to establish its gestational age
- Determine whether or not an early pregnancy is viable.
- Write a structured report or complete proforma report for early pregnancy assessment

Unit Content

Anatomy and Pathology:

- Relational anatomy of adjacent organs and structures (uterus and ovaries)
- Recognise uterine position:
 - Anteverted/retroverted.
- Recognise uterine malformations:
 - Bicornuate, subseptate etc.
- Recognise and correctly measure the endometrium (proliferative versus secretory versus early intra uterine pregnancy).

Imaging of Early Pregnancy:

- Ovarian follicular development
- Recognise a corpus luteum
- Pelvic Imaging:
 - Identify pelvic free fluid and clot
- Imaging gestational sac:
 - In 3 planes
 - Definite signs of gestational sac (yolk sac, foetal pole)
 - First trimester biometry – calculating and estimating gestational age:
 - CRL from 5-14 weeks, and HC and BPD after 11 weeks
 - Imaging and measuring foetal heart rate using M-mode
- Sonographic signs of non-viable pregnancy
- Sonographic mimics of a gestational sac:
 - Pseudosac
 - Nabothian cyst
 - Sub-endometrial cysts
- Recognise and locate an extra-membranous haemorrhage
- Sonographic signs of intra-abdominal bleeding
- Sonographic signs of abnormal implantation:
 - Cornual, scar and cervical ectopic
- Management of patients with pain and bleeding in early pregnancy
- Know the ASUM criteria for early pregnancy loss. Refer D11 policy on www.asum.com.au.
- Perform a TA assessment of the pelvis/pregnancy

- Writing a structured report or complete pro-forma report for early pregnancy assessment

Ectopic Pregnancy – Basic Principles:

- Intrauterine appearances seen in ectopic pregnancy
- Extrauterine appearances in ectopic pregnancy
- Presence of free fluid

Techniques, Physical Principles and Safety:

Appropriate transducers, artifacts, windows, standard images, image optimisation in the context of an obstetric scan.

Limitations and Pitfalls

- Assessment of extrauterine pathology.
- Biometric assessment on limited case numbers.

Teaching Methodologies

All training that include unit curriculum accredited toward the CAHPU will be conducted in the following manner:

- A pre-test shall be conducted at the commencement of the training which focuses learners on the main learning points.
- Each advanced early pregnancy assessment unit shall comprise at least 4 hours of teaching time of which at least 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 unit 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 in both the development and delivery of the unit and training (they do not need to be present for the full duration the training).
- 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. If the latter are unavailable, there will be at least one image interpretation station with cineloops demonstrating the appropriate pathology. For interventional procedures, appropriate phantoms may be used.
- A post-test will be conducted at the end of the training as formative assessment.

Assessment and Logbook

- Evidence of satisfactory completion of training sessions
- Evidence of assessment of competence (summative assessment) signed off by a suitably qualified assessor (DDU, Radiologist, FRANZCR, 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 accredited unit training.

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

- Logbook requirements need to be completed, and logbooks need to be submitted within two years of completing a course containing an accredited unit.
- Complete 50 1st trimester examinations, of that 50:
 - 20 IUP showing either CRL measurement, m-mode trace with FHR, gestational sac, yolk sac. May be transabdominal or transvaginal.
 - 15 adnexal scans showing adnexal anatomy/pathology (examples include free fluid, ovarian follicles/cysts, corpus luteal cysts, haemorrhagic cysts, tubal pathology, etc.). May be transabdominal or transvaginal.
- Findings should be validated by comparison with a "gold standard" findings (such as comprehensive imaging, pathological findings or if these are unavailable then clinical course)
- All cases are to be reviewed and signed off as adequate by a suitably qualified supervisor (DDU, Radiologist, FRANZCR, 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).
- Those cases that involve a procedural component must be signed off by a suitable assessor who performs those procedures themselves.
- At the discretion of the ASUM CCPU/CAHPU Certification Board candidates may be allowed an alternative mechanism to meet this practical requirement.

ASUM CAHPU Competence Assessment Form
Advanced Early Pregnancy Assessment 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

Informed

Prepare Environment

Lights dimmed if possible

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Prepare Machine

Correct position

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Probe & Preset Selection

Can change transducer

Selects appropriate transducer

Selects appropriate preset

Data Entry

Enter patient details

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Image Optimisation

Depth

Frequency

Focus (if required)

Gain/TGC

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Transabdominal Scan

Longitudinal View

Competent	Prompted	Fail
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Technique Tilts probe down into pelvis
Fans through pelvis from side to side

Identifies Uterus in LS
Position of uterus
Endometrium
Cervix
Vagina
Bladder
Bowel
Free fluid / where free fluid would collect
Ovaries (if seen, not essential)

If IUP Present

Identifies Sac (ideally can measure in 3 planes)
Describe typical features of sac
Rounded, echogenic rim, intradecidual
Yolk sac
Foetal pole
Ideally can measure CRL
Can demonstrate FHR
Ideally can measure FHR with M-mode
Use Preformatted Report to date gestation

Transverse View

Technique Fans through pelvis from side to side

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Identifies Uterus
Endometrium
Cervix
Vagina
Bladder

Bowel
 Free fluid / or where it would collect
 Ovaries (if seen, not essential)

Machine Maintenance

Correct position of patient and machine
 Can change probe
 Covers with condom and lubricates probe
 Aware latex free condoms are available
 Uses correct preset

	Competent	Prompted	Fail

Image Optimisation

Depth
 Frequency
 Focus (if required)
 Gain/TGC

Transvaginal Scan

Longitudinal View

Technique Tilts probe down into pelvis
 Fans through pelvis from side to side

Longitudinal View

For Formative Assessment Only:

Feedback of particularly good areas: _____

Agreed actions for development _____

Examiner Signature: _____ Candidate Signature: _____

Examiner Name: _____ Candidate Name: _____

Date: _____