

Ultrasound guidance document

Introduction

Ultrasound training was introduced as part of the RCOG core curriculum in 2010. The RCOG has been amongst the pioneers in the world for introducing these important procedural skills into the postgraduate curriculum in obstetrics and gynaecology. Use and application of ultrasound in obstetrics and gynaecology is now an integral part of clinical practice. This guidance document explains the changes related to ultrasound training in the new curriculum and is intended for trainers and trainees training for ultrasound skills in obstetrics and gynaecology. This guidance will also be relevant to ultrasound trainers from allied professional backgrounds e.g. sonographers, radiologists and midwives.

Broadly, the ultrasound procedural content of the previous five ultrasound modules (2 basic and 3 intermediate modules) is now incorporated into the core 'procedural skills in obstetrics and gynaecology' as outlined in the [Core Curriculum Definitive Document](#) and the table with all the procedural skills is below.

Gynaecology	Endometrial biopsy Cervical smear Vulval biopsy Insertion/removal of IUCD/IUS Surgical & medical management of miscarriage or surgical & medical termination of pregnancy Hysteroscopy Endometrial ablation Diagnostic laparoscopy Simple operative laparoscopy Laparoscopic management of ectopic pregnancy Ovarian cystectomy Transabdominal ultrasound examination of early pregnancy Ultrasound examination of early pregnancy complications (optional) Ultrasound examination in gynaecology (optional)
Obstetrics	Perineal repair 3 rd degree tear perineal repair Non-rotational instrumental delivery Rotational instrumental delivery Caesarean section Manual removal of placenta Surgical management of PPH Surgical management of retained products of conception Surgical wound debridement Transabdominal ultrasound scan examination of late pregnancy Transabdominal ultrasound examination of normal fetal anatomy and biometry (optional)*

**Must be completed and signed off as competent prior to undertaking the Fetal Medicine ATSM or subspecialty training in Maternal and Fetal Medicine*

The two previous basic mandatory modules are part of the ‘mandatory ultrasound skills’ in obstetrics and gynaecology and the three previous optional intermediate ultrasound modules, along with an additional transvaginal obstetric procedure for cervical length assessment, are now part of the ‘intermediate ultrasound skills’ in Table 1 (see below). Some of the intermediate ultrasound skills are mandatory for some of the ATSMs and for entry into certain subspecialty training programs (see ATSM and subspecialty curricula for details).

The mandatory skills need to be achieved by end of ST3 and will be assessed using objective structured assessment of technical skills ([OSATS](#)). The optional ultrasound skills can be achieved after completion of the mandatory ultrasound skills with further advanced training in ultrasound by some of the trainees or those pursuing ATSMs/ASMs. Optional obstetric ultrasound skills and competency form an integral part of the Fetal Medicine (FM) and High Risk Pregnancy (HRP) ATSMs and are essential for subspecialty training in Maternal and Fetal Medicine. Optional gynaecology ultrasound skills and competency are essential for the completion of Acute Gynaecology and Early Pregnancy (AGEP), Advanced Laparoscopic Surgery for the Excision of Benign Disease (ALAP) Subfertility and Reproductive Health ATSMs and the Safe Practice in Abortion Care (SPAC) ASM. The gynaecological ultrasound skills and competences form an integral part for subspecialty training in Reproductive Medicine depending on the individual needs.

Table 1 – Obstetric and gynaecological ultrasound skills

	Mandatory ultrasound skills To be completed by end of ST3	Intermediate ultrasound skills (mandatory in some ATSMs and for subspecialty training)	
Obstetric Procedures	Transabdominal examination in later pregnancy (second and third trimester)	Transabdominal assessment of normal fetal anatomy and fetal biometry	Transvaginal examination in late pregnancy (cervical length and placental assessment)
Gynaecology procedures	Transabdominal examination of early pregnancy (first trimester)	Ultrasound examination of early pregnancy complications	Ultrasound examination in gynaecology

It is essential for trainees to achieve competence in the two mandatory ultrasound skills by end of ST3. These skills are essential for trainees and can act as steppingstones for further supervised training and acquisition of more advanced ultrasound competences. Completion of the two mandatory transabdominal ultrasound skills does not imply that a trainee is automatically ready for independent practice in diagnostic ultrasound (particularly in out of hours unsupervised clinical settings). Care should be taken in delegating decisions about clinical management of patients to trainees who have completed only the mandatory modules (particularly where management relies on the ultrasound findings). The expected utilisation of ultrasound skills, both within and out of

hours should be determined and agreed by the local ultrasound supervisor in the context of local protocols for ultrasound scanning.

Trainees are encouraged to maintain a formal log of ongoing ultrasound experience once mandatory ultrasound skills competence has been achieved although there is no formal requirement for further OSATs to demonstrate ongoing competence unless this was felt necessary by the educational supervisor.

Knowledge

Understanding the tools before using them to perform a procedure is one of the key aspects of any procedural skill. The safe use of ultrasound and an understanding of how it works are covered in basic obstetrics and gynaecology ultrasound courses run regionally in the UK, including the RCOG course on [Early Pregnancy and Gynaecological Ultrasound](#).

Procedural skills

Whilst the procedural aspects of the skill have been emphasised in this document, we expect that the generic skills of obtaining valid consent for performing the procedure (for most scans this is verbal consent), communication skills during and after performing the scan, informed decision making, documentation of findings accurately and writing a report as listed in CiP 1 of the core curriculum to underpin the skills for performing ultrasound. Having an insight into one's own limitations based on level of training and experience should trigger an appropriate senior opinion and/or involvement for further management. These are outlined in the core definitive document but are relevant to the effective use of USS in clinical practice.

Use of simulation based learning should be encouraged where local facilities are available.

Mandatory ultrasound skills

All trainees are required to achieve these by the end of ST3. The list of skills and OSATS required for sign off are described below.

1. Transabdominal ultrasound examination of early pregnancy

Skills required:

- Ability to identify the features of a normal gestational sac and confirm its intrauterine location
- Ability to identify early cardiac activity using B-mode
- Ability to identify fetal number
- Ability to measure gestational sac size and crown rump length

In many cases, transvaginal (TV) ultrasound skills are required in early pregnancy to confirm or refute pregnancy site and viability/non viability (examples include earlier gestation <8 weeks, maternal obesity, empty bladder, retroverted uterus etc). Trainees are required to gain the transabdominal ultrasound competences outlined above but should avail themselves of opportunities to gain exposure to, and experience in, use of

the transvaginal probe. This is not mandatory and will depend on the availability of resources within units.

OSATS required:

1. Transabdominal ultrasound examination of early (8-12 week) pregnancy.

2. Transabdominal ultrasound examination of later pregnancy (second and third trimester)

Skills required:

- Ability to perform basic ultrasound assessment of fetal presentation/lie/biometry
- Ability to perform basic ultrasound assessment of liquor volume
- Ability to perform basic assessment of placental location

OSATS required:

1. Assessment of fetal lie, presentation, liquor assessment (Amniotic fluid index (AFI) and maximum pool depth) and placental assessment.
2. Measurement of HC, AC and FL-formative OSATs required to demonstrate evidence of directly supervised practice.

Optional ultrasound skills

These will be undertaken by trainees after completion of the mandatory ultrasound skills as optional skills. For those doing ATSMs some of these ultrasound skills will be essential for achieving the competencies in individual ATSMs. Please also refer to the [ATSM Curriculum](#).

1. Transabdominal USS examination of normal fetal anatomy and fetal biometry (skills required before commencing Fetal Medicine ATSM)

Skills required:

- Ability to use ultrasound to assess normal morphological ultrasound appearances of the fetus and its environment
- Ability to use ultrasound to assess fetal biometry
- Ability to use ultrasound to assess normal fetal anatomy

OSATS required:

1. Normal fetal anatomy and biometry.

2. Ultrasound examination of early pregnancy complications (skills required for completion of AGEP, ALAP, SRH ATSMs and SPAC ASM)

Skills required:

- Ability to use ultrasound to diagnose normal intrauterine pregnancy
- Ability to use ultrasound to diagnose early pregnancy abnormalities such as miscarriage
- Ability to use ultrasound to diagnose tubal ectopic pregnancy
- Ability to use ultrasound to diagnose non tubal ectopic pregnancy

OSATS required:

1. Ultrasound diagnosis of normal early pregnancy
2. Ultrasound diagnosis of miscarriage
3. Ultrasound assessment of a woman with suspected ectopic pregnancy

3. Ultrasound examination in gynaecology (skills required for completion of AGEP, ALAP, SRH ATSMs, SPAC ASM)**

Skills required:

- Ability to use ultrasound to identify normal morphological ultrasound appearances of the female pelvis and its variations during the menstrual cycle
- Ability to use ultrasound to diagnose fibroid
- Ability to use ultrasound to diagnose ovarian tumours
- Ability to use ultrasound to diagnose pelvic abscess

- Ability to diagnose acute appendicitis
- Ability to diagnose urinary retention

OSATS required:

1. Ultrasound assessment of the normal female pelvis
2. Ultrasound assessment of endometrial abnormality
3. Ultrasound assessment of uterine fibroids
4. Ultrasound assessment of pelvic pain
5. Ultrasound assessment of ovarian lesions

4. Transvaginal USS examination in late pregnancy (skills required for completion of HRP ATSM)

Skills required:

- Ability to use ultrasound to identify the normal morphological ultrasound appearances of the cervix in the second and third trimester
- Ability to use ultrasound to measure the cervical length appropriately
- Ability to use ultrasound to assess for placental position in relation to internal os with low lying placenta

OSATS required:

1. Measurement of cervical length
2. Assessment of placental location in relation to the internal os

Assessment

Ultrasound as a procedure will be assessed by the trainers using the OSATS tool in different clinical settings. This tool has been validated for assessing competency in a particular technique. They can be assessed by any of the trainers including sonographers, midwives, senior trainees, consultants. Simulators may be used for formative assessments. OSATS can be undertaken as many times as the trainee and their supervisor feel is necessary (formative). A trainee can be regarded as competent to perform a procedure independently after they have completed three summative OSATS by more than one assessor involved in their ultrasound training. When a trainee has been signed off as being able to perform a procedure independently, they are not required to have any further assessment (OSATS) of that procedure, unless they or their Educational Supervisor think that this is required (in line with standard professional conduct).

Ultrasound skills form part of the practical procedures which are linked to the [clinical CiPs](#). The mandatory early pregnancy ultrasound skills are associated with CiPs 9 and 11 and the mandatory obstetric ultrasound skills are associated with CiPs 10 and 12 (Further information is available in the [CiP guides](#)). All mandatory ultrasound skills should have been achieved by the end of ST3.

Assessment of the clinical CiPs is made using the entrustability scale shown in Table 2.

Table 2 shows the five supervision levels that are based on an entrustability scale which is a behaviourally anchored ordinal scale based on progression to competence and reflects judgements that have clinical meaning for assessors and are used to make an assessment of the clinical CiPs.

Table 2 – Levels of supervision

Level	Descriptor
Level 1	Entrusted to observe
Level 2	Entrusted to act under direct supervision (within sight of the supervisor)
Level 3	Entrusted to act under indirect supervision (supervisor immediately available on site if needed to provide direct supervision)
Level 4	Entrusted to act independently with support (supervisor not required to be immediately available on site, but there is provision for advice or to attend if required)
Level 5	Entrusted to act independently

This method of sign off moves away from a process of box ticking and toward a process that says, “I trust you to do these work activities. If not, I need to identify the underlying competencies that need to be developed so that you can progress to the next level of trust.” Levels of supervision emphasise the role of observation and judgment, and replicate real life practice. For example, a consultant must decide what each trainee can be trusted to do, as well as determine the amount of supervision, direct or indirect, that they need to undertake activities safely. These kinds of judgments are routinely made in the workplace and are based on the experience of the consultant. By the end of training a doctor must be trusted to undertake all the key critical tasks needed to work as a consultant—and that becomes the outcome and end point of training.

The trainee will make a self-assessment to consider whether they meet expectations for the year of training, using the five supervision levels listed in Table 2 above and highlighting the evidence in the ePortfolio. The Educational Supervisor will then consider whether the trainee is meeting expectations or not by assigning one of the five supervision levels.

Trainees will need to meet expectations for the year of training as a minimum to be judged satisfactory to progress. The expectations for the level of supervision expected for each year of training for all the clinical specialty CiPs are in table 3 below.

Table 3 – Outline grid of supervision level expected for clinical CiPs

	Basic training			Intermediate training				Advanced training		CCT
Capabilities in practice	ST1	ST2		ST3	ST4	ST5		ST6	ST7	
The doctor is competent in recognising, assessing and managing emergencies in gynaecology and early pregnancy.	1	2	CRITICAL PROGRESSION POINT	3		4	CRITICAL PROGRESSION POINT		5	CRITICAL PROGRESSION POINT
The doctor is competent in recognising, assessing and managing emergencies in obstetrics.	1	2		3		4			5	
The doctor is competent in recognising, assessing and managing non-emergency gynaecology and early pregnancy.	1	2				3		4	5	
The doctor is competent in recognising, assessing and managing non-emergency obstetrics.	1	2				3		4	5	