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EUROPEAN FEDERATION OF SOCIETIES FOR ULTRASOUND IN MEDICINE AND BIOLOGY
'Building a European Ultrasound Community'

MINIMUM TRAINING REQUIREMENTS FOR THE PRACTICE OF MEDICAL ULTRASOUND IN EUROPE

Appendix 3: Gynaecological Ultrasound

This curriculum is intended for clinicians who perform diagnostic gynecological ultrasound scans. It includes standards for theoretical knowledge and practical skills. It is recommended that all gynaecologists obtain Level 1 competence, preferably during their specialist training.

Level 1

- It is recommended that trainees should perform a minimum of 300 examinations under supervision. However different trainees will acquire the necessary skills at different rates and the end point of the training programme should be judged by an assessment of competencies
- Examinations should encompass the full range of pathological conditions listed below
- A log book listing the types of examinations undertaken should be kept
- An illustrated log book of 20 documented cases should be kept. This should include uterine fibroids, corpus luteum cysts and different types of abnormal early pregnancy
- Training should usually be supervised by a level 2 practitioner. In certain circumstances it may be appropriate to delegate some of this supervision to an experienced level 1 practitioner with at least two years of regular practical experience.
- The training should include an appropriate theoretical course (see below) followed by a theoretical examination and the trainee should read appropriate textbooks and literature
- To maintain level 1 status the practitioner should perform at least 300 examinations each year
- During the course of training the competency assessment sheet should be completed as this will determine in which area or areas the trainee can practice independently
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Level 1 Knowledge Base and Recommended Contents of Level

1 Theoretical Course

A minimum of 20 hours theoretical teaching is required preferably at the beginning of the training period.

This should include:

- Physics and Technology, Ultrasound Techniques and Administration (see Appendix 2)
- Normal gynaecological ultrasound findings in non-pregnant women
- Normal ultrasound findings in early pregnancy (4–12 gestational weeks)
- Ultrasound based management of early pregnancy complications
- Common abnormal ultrasound findings in the uterus, e.g. fibroids and their most important differential diagnoses (e.g., sarcomas, adenomyosis, and uterine malformations)
- Ultrasound based management of pre- and post-menopausal bleeding (measurement of endometrial thickness, saline infusion sonography, etc)



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- Common abnormal ultrasound findings in the adnexae, e.g. corpus luteum cysts, endometriomas, dermoid cysts, hydrosalpinges, para-ovarian cysts, peritoneal inclusion cysts, abscesses.
- Ultrasound characteristics of benign and malignant pelvic masses.
- Management of incidentally detected ovarian cysts in postmenopausal women.

Level 1 Competencies to be acquired

At the end of training the trainee should be able to:

- Perform a systematic examination of the pelvic organs, both transvaginally and transabdominally
- Obtain optimal images of the uterus and adnexa
- Obtain accurate measurements of the uterus, endometrium and ovaries
- Recognize physiological changes in the uterus and ovaries during the normal menstrual cycle.
- Locate an intrauterine contraceptive device in the uterus.
- Discriminate between normal and abnormal ultrasound findings in a non-pregnant woman
- Recognize, measure and locate uterine fibroids
- Detect an intrauterine gestational sac of at least 5 mm in mean diameter
- Detect heart activity in an embryo of at least 10 mm in

Level 2

- The training requisite to this level of practice would be gained during a period of sub-speciality training, which may either be within or after the completion of a specialist training programme.
- Competencies will have been acquired during training for level 1 practice which will then be refined by performing a minimum of 30 clinic sessions at a centre where supervision by someone with level 2 competence is available.
- Typically a level 2 practitioner will have undertaken at least 2000 gynaecological ultrasound examinations
- A log book should be kept documenting 50 cases which amongst other conditions should include the following
 - uterine pathology, benign and malignant
 - ovarian pathology, benign and malignant
 - tubal pathology
 - ectopic pregnancy
- To maintain competence at level 2 practitioners should perform at least 500 examinations each year
- The training should include a theoretical course of at least 30 hours (see below) followed by a theoretical examination and the trainee should read appropriate literature and textbooks



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Level 2 Knowledge Base and Recommended Contents of Level 2 Theoretical Course

- New ultrasound modalities, e.g. ultrasound contrast agents
- The role of ultrasound in relationship to other imaging modalities, e.g., magnetic resonance imaging and computed tomography
- Uterine pathology including the use of Doppler and three-dimensional (3D) imaging
- Fibroids, sarcoma
- Adenomyosis/adenomyomas
- Uterine malformations
- Endometrial pathology: ultrasound based management of bleeding disturbances
- Cervical pathology including cancer
- Screening for ovarian and endometrial cancer
- Gynaecological oncology – Staging, recurrence, response to treatment
- Extragenital pelvic pathology (Bowel, appendix, urinary bladder)
- Pelvic inflammatory disease (PID)
- Infertility – HysteroContrastSalpingography (HyCoSy), Saline Infusion Sonography (SIS), Follicle aspiration, Hyperstimulation Syndrome
- Early pregnancy complications – molar pregnancy and choriocarcinoma, all types of ectopic pregnancy (including both diagnosis and management)
- Use of ultrasound in the evaluation of women with pelvic pain including adnexal torsion, pelvic inflammatory disease, endometriosis and extragenital causes (eg appendicitis, diverticulitis)
- Pediatric and adolescent gynaecology
 - Assessment of normal development of the genital organs
 - Common findings in precocious puberty, adrenarche, thelarche, virilisation and primary amenorrhoea
 - diagnosis and management of adnexal masses in children
- Invasive procedures
 - puncture of ovarian cysts
 - drainage of pelvic abscesses
 - fine needle and larger bore needle biopsy of pelvic masses

Level 2 Competencies to be acquired

- Uterus
 - reliably discriminate between fibroids and adenomyosis
 - recognize the features of endometrial cancer
 - use ultrasound correctly in the management of bleeding



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- disturbances including postmenopausal bleeding
- Adnexa
 - reliably discriminate between benign and malignant adnexal masses
 - reliably diagnose endometrioma, dermoid cyst, hydrosalpinx, peritoneal pseudocysts, paraovarian cysts, and benign solid adnexal masses
 - recognise acute and chronic pelvic inflammatory disease
 - assess by ultrasound the status of ectopic pregnancies of all kinds and plan treatment
 - assess the likelihood of torsion of normal adnexal structures and adnexal masses
 - use ultrasound in infertility workup (for trainees working in this area)
 - use ultrasound to monitor ovulation induction
- Interventional ultrasound
 - aspirate and/or drain pelvic cysts, abnormal fluid collections, abscesses etc under transabdominal and transvaginal ultrasound guidance
 - perform saline infusion sonography (SIH)
 - assess tubal patency with HysteroContrastSalpingography (HyCoSy) – not obligatory
- Have knowledge of
 - the common findings in children with precocious puberty, menarche
 - thelarche, adrenarche and virilisation possible findings in primary and secondary amenorrhoea
 - the role of ovarian and endometrial cancer screening
 - the principles of oocyte collection by transvaginal ultrasound guided follicular aspiration

Level 3

A level 3 practitioner is likely to spend the majority of their time undertaking gynaecological ultrasound and/or teaching, research and development and will be an 'expert' in this area

Maintenance of Skills

Recommended numbers of examinations to be performed annually to maintain skills at each level are given in the text

Practitioners should:

- include ultrasound in their ongoing continued medical education
- (CME) and continued professional development (CPD)
- audit their practice
- participate in multidisciplinary meetings
- keep up to date with relevant literature



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