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

Bergen, April 2009

Dear Colleague,

Minimum Training Recommendations for the Practice of Medical Ultrasound has now been developed by EFSUMB in a variety of fields. These recommendations are available for free on the EFSUMB website (www.efsumb.org).

Please, enclosed find the EFSUMB Minimum Training Recommendations, which hopefully can be of guidance in ultrasound education.

Best regards,

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MINIMUM TRAINING RECOMMENDATIONS FOR THE PRACTICE OF MEDICAL ULTRASOUND

1. Introduction

- 1.1 Many medical specialists are increasingly wishing to undertake ultrasound examinations on patients referred to them for their clinical opinion as a direct extension of their clinical examination. This may take place in the outpatient department, on the wards and in the assessment of emergency patients. Additionally there is a demand by some European Training Boards to incorporate ultrasound experience into clinical training and accreditation where appropriate.
- 1.2 This document makes recommendations for minimum ultrasound training requirements in the following areas:-
- Gynaecological ultrasound
 - Obstetric ultrasound
 - Gastroenterological ultrasound
 - Nephro-urological ultrasound
 - Breast ultrasound
 - Vascular ultrasound

2. Aims and Principles

- 2.1.1 The medical use of ultrasound remains highly operator dependent in spite of advances in technology and the interests of the patient are best served by the provision of an ultrasound service which offers the maximum clinical benefit and optimal use of resources i.e. with appropriately trained personnel using equipment of appropriate quality
- 2.2 All who provide an ultrasound service are ethically and legally vulnerable if they have not been adequately trained. A defence against a claim for negligence is unlikely to be successful should an error of diagnosis be made by an untrained practitioner of ultrasound.
- 2.3 An appropriate level of training in ultrasound is one that allows for the provision of a safe and effective ultrasound service. This may be a purely diagnostic, predominantly interventional or a clinically focused service.
- 2.4 The European Federation of Societies for Ultrasound in Medicine and Biology (EFSUMB) has proposed minimal training requirements for the practice of medical ultrasound in Europe (Appendix 1). These identify three levels of training and expertise. The boundaries between the three levels are difficult to define precisely and should be regarded as a guide to different levels of competence and experience. In the detailed syllabuses appended an attempt is made to indicate more specifically the type of experience required for each level of training
- 2.5 A system for recording the results of any ultrasound examination in the patients' record is mandatory. The permanent recording of images, where appropriate, is desirable for the purposes of correlative imaging, future comparison and audit.
- 2.6 Knowledge of the appropriate use and integration of other imaging techniques should be required
- 2.7 The requirement to deliver training must acknowledge the time commitment of the trainer and trainee, the provision of funding, the content and practicability of the curriculum and the availability of trainers and training courses. It must be recognised that training requires additional time, space and equipment. Training should be properly costed and funded.



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- 2.8 Training should be related to the specialist requirements of the trainee i.e. training should be modular. Within any one level of training it may be appropriate for a trainee to become proficient in some but not all of the individual modules and only undertake ultrasound practice in this /these areas.
- 2.9 Training should be given in departments which have a multidisciplinary (medical, surgical, radiological etc) philosophy, an adequate throughput of work, a trainer with experience and an interest in training in the module required, appropriate equipment and an active audit process.
- 2.10 Regular appraisal should take place during the training period. At the end of a period of training a '**competency assessment**' form should be completed for each trainee, which will determine the area or areas in which they can practice independently. The responsibility to be adequately trained and to maintain those skills lies with the individual practising ultrasound. An assessment of competence is a reflection on the position at that moment in time and no more.
- 2.11 Following training, regular and relevant continued medical education (CME)/continued professional development (CPD) should be undertaken and documented. It is the responsibility of the trainee to ensure that their practical skills are maintained by ensuring regular ultrasound clinics are undertaken and that there is an adequate range of pathology seen in their ultrasound practice.

3. Training Recommendations

- 3.1 Training should consist of a theoretical module (Appendix 2) and practical modules of training (Appendices 3 - 8)

4. Theoretical Training

- 4.1 Preliminary theoretical training should cover the physics of ultrasound, levels and sophistication of equipment, image recording, reporting, artefacts and the relevance of other imaging modalities to ultrasound. This element of training may be best achieved by attending formal courses.
- 4.2 The theoretical module is set out in Appendix 2.

5. Practical Training

- 5.1 A curriculum for each module for the three levels of training has been developed incorporating theoretical training on anatomy and pathology and a practical syllabus listing conditions which should be included in the experience of the trainee. In appropriate circumstances, a limited anatomical or modular approach may also be acceptable if full competence in that area is demonstrated and future clinical practice is confined to that area alone. Practical experience should be gained under the guidance of a named trainer.
- 5.2 The requirements for the different levels of training are as follows:

Level 1

- 5.2.1 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 practical competence.
- 5.2.2 Examinations should encompass the full range of pathological conditions listed in the modules.



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- 5.2.3 A log book listing the number and type of examinations undertaken by the trainee themselves should be kept.
- 5.2.4 An illustrated log book of specific normal and abnormal findings may be appropriate for some modules.
- 5.2.5 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 practice.

Level 2

- 5.2.6 This requires at least one year of experience at level 1, with regular ultrasound clinics.
- 5.2.7 A significant further number of examinations should have been undertaken in order to encompass the full range of conditions and procedures encountered in each module.
- 5.2.8 A log book listing the numbers and types of examinations undertaken by the trainee should be maintained.
- 5.2.9 An illustrated log book of specific normal and abnormal findings may be appropriate for some modules.
- 5.2.10 Supervision of training should be undertaken by someone who has achieved at least level 2 competence and has had at least two years experience at that level.

Level 3

- 5.2.11 This requires a practitioner to spend a significant part of their time undertaking ultrasound examinations or teaching, research and development in the field of ultrasound.

5.3 The syllabus for each practical module is outlined in Appendix 3-8

6. Continuing Medical Education (CME) and Professional Development(CPD)

- 6.1 The minimum amount of on-going experience in ultrasound as outlined in each syllabus should be maintained.
- 6.2 CME/CPD should be undertaken which incorporates elements of ultrasound practice.
- 6.3 Regular audit of the individual's ultrasound practice should be undertaken to demonstrate that the indications, performance and diagnostic quality of the service is satisfactory.

The advice contained in this document draws on the work of the United Kingdom Royal College of Radiologists, its committees and members and Fellows, which resulted in the Publication of 'Ultrasound Training Recommendations for Medical and Surgical Specialties', BFCR(05)2. EFSUMB would wish to acknowledge the contribution of the Royal College of Radiologists and its Fellows.

The Minimum Training Recommendations for the Practice of Medical Ultrasound were published under the EFSUMB Newsletter section in the *Ultraschall in der Medizin/European Journal of Ultrasound*, Volume 27, issue 1 February 2006 page 79-105.