

Guidelines

Education and training in Anaesthesia – Revised guidelines by the European Board of Anaesthesiology, Reanimation and Intensive Care

SECTION and BOARD OF ANAESTHESIOLOGY¹, European Union of Medical specialists

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Summary

The expansion of the European Union during the last 2 yr has resulted in the need for a revision of existing guidelines to further harmonize education and training in the specialty of anaesthesiology throughout the European Union. Although each individual country is responsible for its own training and certification, these guidelines are intended to reflect minimum criteria for specialist training. It is the opinion of the Section and Board of Anaesthesia that specialist training will need to be for a minimum of 5 yr.

Keywords: GUIDELINES; ANAESTHESIOLOGY; EDUCATION AND TRAINING.

Introduction

The increased number of member countries following the expansion of the EU (May 2005 and January 2007) calls for a review and revision to further harmonize education and training in the specialty of anaesthesiology throughout the EU.

These guidelines reflect minimum criteria for such specialist training. Each individual country is responsible for its own training and certification. It is, however, the opinion of the Section and Board of Anaesthesia that such specialist training will need to be for a minimum of 5 yr to reach the appropriate levels of competency. Some member countries are

at the present defining competencies in several areas of the specialty. This will be necessary in relation to credit transfer in line with the Bologna declaration.

These guidelines do not discuss further education at a postgraduate level in subspecialty areas.

Objectives in education/training

- To demonstrate clinical skills in pre-, peri-, and postoperative anaesthetic management
- To be familiar with pain management both in acute and postoperative situations and in patients with chronic pain
- To safely handle critical situations including resuscitation
- To ensure that the specialist can provide general intensive care for adult medical and surgical patients and general paediatric patients
- To be able to function in pre-hospital and emergency medicine
- To show activity in the development and science of the specialty

¹The areas of expertise of Anaesthesiology include: Perioperative Anaesthetic Care, Emergency Medicine, Intensive Care Medicine, Pain Medicine and Reanimation.

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- To demonstrate a satisfactory behavioural and professional attitude towards patients and hospital employees at large
- To be able to function as a role model and teacher for younger colleagues.

Education

Training programmes should be organized with education in all areas of the specialty and show *progression* from straightforward to more advanced clinical cases. It should be organized with long rotations in all recognized areas in order to give adequate exposure (Table 1).

The education and training should be based at each level on anaesthesiological principles in the evaluation of a patient's vital parameters, their associated medical conditions, active disease and expected reactions to drug administration.

Besides the clinical training it is important that the trainee has access to a core curriculum of literature for individual studies or that it is covered in tutorial sessions. Each trainee should have a mentor who will advise and follow each person's individual progress so that possible weaknesses can be corrected in time.

Training should be supervised and errors corrected continuously. It is often necessary that the mentor/teacher/supervisor demonstrates new technique and procedures to the trainee, often several times before the trainee can take over and practice.

There is a current tendency to use various simulators to practice both technical skills (part-task simulators) and functioning as a team (full-scale simulators). They seem to be valuable assets in training and this mode of teaching mode can be expected to increase.

Evaluation of each trainee should be given at intervals and remedial action taken to maintain the trainee at expected educational level, leading towards completion.

Table 1. Examples of core areas in the education.*

Anatomy	Airway, respiration, circulation, central and peripheral nerves
Physiology	Respiration, circulation, renal function
Pharmacology	Including drug interaction
Physics	Including gas laws
Anaesthesia techniques	General, regional and local anaesthesia
Special care	Newborn and paediatrics, overdose and intoxication transplantations
Special equipment	Monitoring, emergency airways management

*For more detailed description on requirements of the teaching programme, please, go to the previously published guidelines [1,2].

Training content

Anaesthesiology is a specialty, which has grown from a service specialty strictly within the operating room, to having responsibilities in other areas as well. The postoperative period and the critical care area have such great similarities to the work in the operating room that these areas in many countries have become part of anaesthesiology.

Common principles in intensive care include stabilization/normalization of physiological parameters (respiration, circulation, metabolism, renal function and temperature); provision of adequate sedation/sleep and analgesia and maintaining an appropriate fluid balance.

There are other areas like prehospital management, acute and chronic pain management and preoperative evaluation and preparation, which are also at the core of anaesthesiology.

Use of a logbook

The Section and Board of Anaesthesiology supports the use of logbooks. The benefit of such a system is that it demonstrates the quantity of cases and provides a clear indication if a trainee is behind in the general scope of an educational plan. It also gives the Programme Director an opportunity not only to compare trainees but also to 'benchmark' against other institutions. There are no fixed numbers, that must be met, but in Table 2, some indicative numbers are given. For all patients it is recommended that patient age, ASA physical status, type of procedure, anaesthesia technique and type of supervision is noted. In the log book special techniques, such as fiberoptic intubations, and blood saving techniques should also be noted.

Table 2. Suggested minimum target numbers.

Total numbers of procedures over the 5 yr	1500
General anaesthesia	1000
Spinal anaesthesia	100
Epidural anaesthesia	100
Peripheral nerve blocks	100
Children (<5 yr)	30
Children (<1 yr)	10
Obstetrics (Caesarean sections)	10
Obstetrics (epidural for delivery)	50
Thoracic surgery anaesthesia	20
Neurosurgical anaesthesia	20
Vascular surgery anaesthesia	20
Urology anaesthesia	20
ENT	20
Day surgery anaesthesia	40
Arterial catheterization	50
Central venous catheterization	50

For patients in the ICU, in pain clinics and in pre-hospital areas similar log books can be set up, all of which describe the scope of the training.

Quality of care

Anaesthesiology is a specialty where the span between success and failure is quite narrow. Safe practice builds on repetitions and routines. The gradual progression in education and training will build towards low complication rate.

Therefore quality programmes both within the specialty and in a department, will ensure a high standard of patient care. This will also create respect within the medical professions and among communities.

Evaluation and examination

It has been mentioned that the use of log books, structured training with mentors, and repeated evaluation and assessment will ensure that all specialists become experienced and qualified.

Many countries have used the European Examination organized by the European Society of Anaesthesiology as a final exam and evaluation to become Board certified as a specialist.

Some European countries have, however, started to develop a competency based evaluation system using training portfolios. These are systems by which the trainee has to meet set criteria in areas of training to guarantee a minimal level of accepted knowledge. The intention is to broaden education in areas where the trainee needs extra support. The portfolio system creates assessments, which then become part of a final overall evaluation process.

The Board of UEMS/anaesthesiology will closely follow the development of portfolio systems and might recommend them in coming revisions.

Hospital visitation programme

The Board of UEMS/anaesthesiology and the European Society of Anaesthesia (ESA) has instituted a

visiting and accreditation system to evaluate training programme in terms of facilities, design of education, standard and involvement of faculty, balance between clinical training and didactic teaching and the possibility for research.

Such an accreditation visit will also include interviews with trainees, review of anaesthesia records and log books.

Both bodies review results and a successful evaluation leads to a certificate, which then is valid for 5 yr before a re-accreditation must to take place.

Training programmes, which do not meet the set standards, will receive recommendations for changes and improvements and an earlier scheduled re-evaluation visit.

Some countries have an internal review process much like the one proposed and harmonization by these two systems would be desirable.

Future development

The so-called Bologna documents, which support the harmonization of medical school education and acknowledge that an individual's education can be undertaken at several different schools throughout Europe will have an impact on residency training as well.

The Board of UEMS/anaesthesiology has set up a group to establish our position on this issue. It might even be possible that residency training could be combined between institutions in a similar way.

References

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