

EUROPEAN GUIDELINES FOR TRAINING IN PAEDIATRIC ANAESTHESIA

Introduction

Approximately 20% of the population in European Countries are children defined as persons under the age of 16 years. However, in individual countries the definition of a child varies, for example in the United Kingdom and the Netherlands a child is defined as a person under 18 years of age. The delivery of an anaesthesia service to this group of patients requires that anaesthesiologists who care for children must have had a proper training in the management of paediatric anaesthesia and also have sufficient ongoing experience to maintain skills.

In the European community, the body responsible for setting minimum standards of training and expertise for medical specialists in anaesthesia is the Union Européenne des Médecins Spécialistes (UEMS) Section of Anaesthesiology, Reanimation and Intensive Care. The aims of this UEMS Section are to harmonise training programmes and achieve minimum standards of training and expertise among the Member European Union States, to allow the free movement of doctors and specialists, which is the aim of the European Union [1].

The year 2001 Training Guidelines in Anaesthesia of the European Board of Anaesthesiology, Reanimation and Intensive Care address the training requirements for general specialists and do not deal with advanced training in the sub-specialities following recognition of general specialist competence.

However, it has been reported that special guidelines are in preparation for some sub-specialities [2].

The aim of this document is to put forward **recommendations for the minimum amount of training** required in paediatric anaesthesia throughout the European Community. It is important to appreciate that all training in anaesthesia should be competency based with continuous assessment and supervision. Furthermore, it must be stressed **that recommendations as to the number of cases to be undertaken by trainees should only be taken as a guide and not as an absolute requirement.**

The following should be possible to achieve [3].

All trainees in anaesthesia, regardless of their future career

A minimum of 3 months of continuous training should be provided in a specialist paediatric centre in a University hospital, a large Children's Hospital or a District(non specialist) Hospital with a large paediatric department, or a combination thereof, that have all the facilities required for the management of children. This training should not only include a sufficient number within the different surgical specialities but also a mixed age group of paediatric surgical patients.

The recommended number of patients is:

- ~ 10 infants less than 1 year of age (2 neonates),
- ~ 20 children aged 1 to 3 years,
- ~ 60 children aged 3 to 10 years.

For trainees who aspire to a post with an interest in paediatric anaesthesia (less than 50% of their time or on average the equivalent of at least half a day of paediatric anaesthesia per week).

- ~ A further training module of at least 6 months of continuous training is recommended.

For trainees who wish to acquire a specialist post in paediatric anaesthesia (more than 50% of their time or on average the equivalent of at least two and a half days per week).

- ~ A further module of continuous training **for a minimum of one year** in a specialised paediatric centre is recommended.

- ~ Trainees in the extended training modules above should spend periods of 1 and 2 months respectively in a paediatric intensive care unit. This period of training is to familiarise the trainee with the principles of paediatric intensive care management and must not be considered as a full training in paediatric intensive care that in many countries takes an additional period of training of up to two years. In addition, the surgical case mix should be extensive and must include emergency cases.

All trainees will be expected to have attained a knowledge of:

- ~ Anatomical, physiological and pharmacological differences between children and adults.
- ~ Resuscitation of the neonate, infant and child.
- ~ General principles of the management of the neonate and the premature baby.
- ~ Important syndromes that may affect the management of anaesthesia.
- ~ General principles of paediatric intensive care and paediatric emergency medicine.
- ~ Principles of the safe transportation of infants and children to or from other centres.
- ~ Medico-legal issues specific to paediatric practice, for example consent and clinical research.

At the completion of training the trainee should have attained competence in:

- ~ Resuscitation, basic and advanced life support.
- ~ Preoperative evaluation and premedication.
- ~ Stabilisation and transportation of the emergency case.
- ~ Techniques for induction and maintenance of general anaesthesia.
- ~ Airway management in all age groups.
- ~ Monitoring.
- ~ Circulatory support and fluid management.
- ~ Regional anaesthesia and analgesia.
- ~ Perioperative pain assessment and management.
- ~ Postoperative recovery room management and the initial stabilisation of vital parameters of children who require intensive care management.

- ~ Communication skills in respect to children and their parents.
- ~ Trainees in extended training are expected to have competency and experience in a wider case mix including the more specialised areas of paediatric anaesthesia practice, for example in cardiac and neurological surgery.

Assessment

- ~ Trainees must keep a logbook of cases that they have been involved with and should participate in audit.
- ~ The trainee should be assessed during and at the completion of their paediatric training. This formal assessment, by the head of department or other authorised person, should include an interview, review of the trainee's logbook and reports from supervisors.

Supervision

Teaching and supervision should be adjusted to the age of the child undergoing anaesthesia and other recognised risk factors.

- ~ Level 1. The trainer teaches and supervises the trainee during the whole procedure for infants aged 1 year or less.
- ~ Level 2. The trainer is present at induction and recovery in children aged 1 to 3 years.
- ~ Level 3. The trainer is immediately available in the hospital for children aged over 3 years.

For neonates and infants up to 1 year of age, "level 1 supervision" and the presence of a specialised assistant, who may be a nurse, should be mandatory. Level 2 and 3 supervision should be appropriate with regard to uncomplicated elective surgery, but not for major emergency surgery or for high-risk patients including neonates. For these cases a team of two clinicians, one a specialist, would be advisable, regardless of the patients' age. As far as practical, trainees should, in the interests of training, accompany a specialist during the management of these cases. For trainees in the additional extended training modules, the levels of supervision may be varied commensurate with the individual's experience and expertise, in line with their department's policies.

Specialist Practice in Paediatric Anaesthesia Specialist Paediatric Anaesthesiologist

Specialists in paediatric anaesthesia are defined as anaesthesiologists who have had an extra training, of at least one year in a specialised centre and who spend at least 50% of their working week, equivalent to two and a half days, caring for children of different ages. They usually work in a specialist centre. These paediatric anaesthesiologists are expected to keep up to date and competent in paediatric resuscitation, anaesthesia, pain management, emergency paediatric medicine and initial stabilisation of children requiring intensive care.

Specialist Anaesthesiologist with an interest in Paediatric Anaesthesia

These specialists usually work in a District Hospital or single speciality unit or hospital and they would be expected to undertake a minimum of the equivalent of one half-day paediatric operating list per week. Continuing medical education and professional development must be undertaken to ensure that these specialists also keep up to date with the developments and advances in paediatric anaesthesia. Contact should be established with a specialised paediatric surgical centre to enable these anaesthesiologists to make visits for updating their knowledge and expertise.

Specialists in General Anaesthesia

All specialist anaesthesiologists in general anaesthesia should be capable of safely anaesthetising children over 3 years of age for the common surgical procedures of childhood. They are also required to keep up to date in paediatric resuscitation and the stabilisation of infants and children prior to transfer to paediatric surgical centres.

References

1. De Lange S. The European Union of Medical Specialists and speciality training. *Eur J Anaesthesiol* 2001; 18: 561-562.
2. European Board of Anaesthesiology. Training Guidelines in Anaesthesia of the European Board of Anaesthesiology Reanimation and Intensive Care. *Eur J Anaesthesiol* 2001; 18: 563-571.
3. Association of Paediatric Anaesthetists of Great Britain and Ireland. Training in Paediatric Anaesthesia 2002.