

VII A structured neurosurgical training plan and the neurosurgical logbook in the UK

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Introduction

Although there are many similarities in neurosurgical training methods throughout Europe, some differences exist in training programmes and the extent of practical experience trainees gain in different countries.

In the UK a structured neurosurgical training plan and a log-book have a long tradition for over 20 years and are mandatory for any training programme. The UK training programme aims to produce a neurosurgeon capable of independent practice, wholly responsible for patients admitted under his/her care. This requirement perhaps differs from some other European countries where a hierarchical system exists and the newly trained neurosurgeon has limited autonomy. Whatever system is present, learning does not stop on gaining accreditation, but should persist throughout the neurosurgeon's entire working career.

A structured training plan should ensure that the trainee has gained adequate exposure to a wide variety of neurosurgical conditions in a training unit with appropriate facilities and has attended a weekly educational programme covering the necessary range of academic disciplines. It is essential that such a training programme be combined with a robust method of assessing progress. Ensuring that the trainee completes a specific number of years within a training programme is straightforward, but determining whether or not he/she has achieved the required level of knowledge and the required level of clinical and operative competence at each stage of training presents challenging difficulties.

To become competent in performing an operative technique begins with observation, followed by super-

vised guidance by a patient teacher. Finally experience by repetition improves ability, increases confidence and provides increasing exposure to anatomical variations and to potential complications. The maintenance of an operation logbook records such experience and is an important aspect of a structured training programme.

This chapter sets out guidelines to establish a comprehensive, structured and balanced neurosurgical training programme, based primarily on the system currently used in the United Kingdom and Ireland. It also describes the neurosurgical logbook and reviews the cumulative operative totals achieved by UK/Irish trainees over the last decade. The use of operative totals in assessing progress and attainment is reviewed along with other methods of determining competence in chapter XI on page 77. These continue to evolve in the need to maintain standards and to ensure that trainees achieve satisfactory training.

It is hoped that those countries in which training is less well structured may take up these suggestions and provide an opportunity to establish a more uniform approach to training throughout Europe according to the UEMS Training Charter, the respective recommendations of the UEMS Section of Neurosurgery and the Joint Residency Advisory and Accreditation Committee.

The structured training plan

Objectives

Neurosurgery is a specialty dealing with the diagnosis, evaluation and treatment of patients with dis-

orders of the cranium, spine and nervous system. On completing training, the trainee must be capable of practising general neurosurgery competently and independently and should develop a special expertise in at least one of the subspecialties and/or research.

It is not expected that trainees on completion of training, should attain competence in every operative procedures (see Table chapter XI). When not competent to deal with all aspects of a particular condition, the trainee should have sufficient knowledge and expertise to care for such a patient until referral to an appropriate neurosurgeon is arranged.

Requirements for entry into neurosurgical training

Although such requirements will vary from country to country these should be clearly specified. It is suggested that trainees should not enter a neurosurgical training programme immediately after gaining a medical degree, but should obtain experience at a junior level in other surgical specialties as well as in neurosurgery. Such exposure may help convince a trainee that he/she has made the correct career choice before embarking on a prolonged period of training. During this time the trainee should acquire knowledge of the management of surgical patients in general e.g. – wound healing, fluid balance, coagulation and thrombotic disorders, pain control, triage, assessment and resuscitation after trauma, airway control, respiratory problems and ventilation, chest, abdominal and limb injuries, blood pressure control, sepsis and shock, multi-system failure, principles of oncology and the principles of outcome assessment after surgery.

In the UK such knowledge is tested by an MCQ, an oral and a clinical examination on basic surgical training. In addition trainees must attend and satisfactorily complete a five day course on basic surgical skills.

Recommendations

- Six months general surgery
- Six months orthopaedic surgery (including emergencies)
- Six months accident and emergency
- Six months neurosurgery

Duration of neurosurgical training in the UK

In most instances it is expected that neurosurgical training should last a *minimum of six years* consisting of

- *Five years in clinical neurosurgery* which must incorporate six months of *paediatric neurosurgery*. During this training period, the trainee must acquire a good working knowledge of neuroradiology, neuropathology and neurophysiology, although he/she need not have worked in these specialties.
- *One further year of training* should be completed in any related branch of the specialty, e.g.,
 - laboratory or clinical research,
 - subspecialisation,
 - training overseas,
 - up to 6 months in neurology, neuroradiology, neuropathology or neurophysiology (more than one could be taken).

Alternatively, the trainee could complete a further year of clinical neurosurgery within his training unit. The trainee need not take this year at the end of training, particularly if undertaking research. Some may wish to extend a period in research to two or three years to attain a higher degree.

Rotational programmes

Since it may not be possible to incorporate all training requirements within a single neurosurgical unit, it may be necessary to set up rotational programmes incorporating two, three or even four units through which the trainees would rotate for specific periods. Such rotational arrangements would be essential

- in units with no (or limited) paediatric neurosurgery.
- in small units with limited bed numbers where less than four specialists/consultant neurosurgeons practice
- in units without access to research facilities.

Content of training programme

Because hours available for training vary, the content is *not prescriptive* with respect to each individual year of training. General principles apply and include –

In the first 2 years, the trainee must become competent at history taking, neurological examination, assessment of clinical problems, non operative management, neurosurgical intensive care, interpretation of neuro-radiological, neuropathological and other neuroscience investigations and the basics of operating, e.g., should be able to perform craniotomies, for cranial trauma and malignant tumours, shunting proce-