CAREERS

Developing your career as a neurosurgeon

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Life as a neurosurgeon is varied, challenging, and rewarding. There are opportunities to subspecialise in a variety of areas or to combine your work with academic research or a non-clinical role.

A certificate of completion of training is awarded by the General Medical Council once the required training has been successfully completed and the trainee is deemed competent by the specialist advisory committee. They will then be placed on the specialist register and allowed to apply for consultant posts.

Newly appointed NHS consultants must be competent to manage unselected emergency and urgent admissions to a regional neurosurgical unit. They will be capable of taking full responsibility for the continuing care of patients in a neurosurgical unit. Importantly, they will be proficient in all aspects of the clinical and emergency operative management of patients presenting with the essential neurosurgical conditions. A consultant neurosurgeon will also have demonstrated the potential to lead a clinical team.

Neurosurgical services are usually provided in tertiary regional neuroscience centres situated in major cities serving populations of between 1 million and 3.5 million. There are 40 neurosurgical units in the UK and Ireland.¹

Competition for consultant posts is fierce and, in order to increase their employability, most neurosurgeons will want to demonstrate they are skilled in a subspecialty area. They will most likely have developed an interest during the later stages of training. The major areas of special interest practice in neurosurgery are functional neurosurgery, paediatric neurosurgery, neuro-oncology, neurovascular surgery, skull base surgery, spinal surgery, and traumatology (see box).

Major areas of special interest practice in neurosurgery

- **Functional neurosurgery:** the management of a wide range of problems including epilepsy, spasticity, and movement disorders
- **Paediatric neurosurgery:** treatment of children accounts for 10-15% of neurosurgery and includes facial anomalies and congenital spinal defects as well as tumours and other rarer conditions
- **Neuro-oncology:** the management of intrinsic brain tumours
- **Neurovascular surgery:** working closely with interventional colleagues dealing with complex aneurysms, arteriovenous malformations, and abnormal or narrowed blood vessels
- **Skull base surgery:** dealing with disorders of the skull base and skull base tumours
- **Spinal surgery:** including degenerative diseases, tumours of the spine, and trauma
- **Traumatology:** head injury is a major cause of death and disability and prompt neurosurgical intervention and neuro-intensive care leads to substantially better outcomes

Fellowships

Before applying for a consultant post, most neurosurgeons will take on a fellowship post in the UK or abroad to broaden their experience and increase their employability. The Royal College of Surgeons has a list of available neurosurgery fellowships.² Up-to-date information about spine fellowship programmes and clinical visit opportunities around in the world can be found on the Spine Fellowships website.³

Academia

Many senior trainees will have several peer reviewed papers as first named authors or a higher degree (masters or doctorate). Full time academic research or training fellowships to thesis level may be undertaken during or after training.

Entry into an academic career would usually start with an academic clinical fellowship and may progress to a clinical lectureship. Alternatively, some trainees begin with a fellowship post then continue as a specialty trainee on the clinical programme after the fourth year of specialty training. Applications for academic clinical fellow posts are coordinated by the National Institute for Health. Further information can be found on the Research Trainees Coordinating Centre website.⁴

There are also opportunities for trainees to undertake additional training or research outside the academic clinical fellowship route as part of planned time out of their training programme. The Clinical Research Network encourages all doctors to take part in clinical research.⁵ The British Neurosurgical Trainee Research collaboration is a research network open to all trainees interested in undertaking neurosurgical research.⁶

Neurosurgery offers good opportunities to build an academic career. Neurosurgeons can become involved with research activities including writing papers, presenting work at conferences, and collaboration in the UK and abroad. They can also teach postgraduate medical students and supervise junior doctors.

Clinical entrepreneur training programme

Any neurosurgeons with entrepreneurial aspirations may want to consider applying for the clinical entrepreneur training programme run by NHS England.⁷

Continued professional development

Consultants are expected to continue developing their professional skills throughout their working lives. They can

develop their skills through continued professional development activity in one or more of the special interest areas of neurosurgery. The Society of British Neurological Surgeons recognise courses and scientific meetings that meet the required standards.⁸

Doctors also need to demonstrate they remain up to date and fit to practise through revalidation. More information can be found on the Royal College of Surgeons of England website.⁹

Managerial opportunities

There are managerial opportunities for consultant neurosurgeons. These include being the lead NHS consultant for the team (clinical lead), the lead NHS consultant for the department (clinical director), or the lead NHS consultant for the trust (medical director).

Education and training opportunities

Most NHS consultants will be involved in some way with the clinical and educational supervision of junior doctors. There are also other opportunities including becoming the consultant responsible for the postgraduate medical training in a hospital (director of postgraduate medical education) or the consultant overseeing the education of the cohort of trainee doctors within a local HEE office or deanery (training programme director).

SAS doctor roles

There are also opportunities to work at non-consultant level, for example as a specialist and associate specialist (SAS) doctor. SAS doctors are non-training roles where the doctor has at least four years of postgraduate training, two of those being in a relevant specialty.

The role of an SAS surgeon varies depending on experience. SAS doctors frequently participate in routine and elective surgery rather than emergency work. Some surgeons are attracted to the SAS role as the hours are more regular than that of a consultant, and you are paid for on-call work and overtime beyond 7 am to 7 pm

Working abroad

There are opportunities for SAS doctors or consultants to work or volunteer abroad. Staff are often needed at short notice and work in challenging environments. Further information can be found on the BMA website.¹⁰ Opportunities can be found at Médecins Sans Frontières,¹¹ MERLIN,¹² and Voluntary Service Overseas.¹³

- 1 British Society of Neurological Surgeons. Neurosurgical units. www.sbn.org.uk/index.php/neurosurgical-units.
- 2 Royal College of Surgeons of England. Neurosurgery fellowships. www.rcseng.ac.uk/education-and-exams/accreditation/rcs-senior-clinical-fellowship-scheme/national-surgical-fellowship-scheme-register/neurosurgery.
- 3 Spine Fellowships. www.spinefellowships.com.
- 4 National Institute for Health Research. Trainees coordinating centre. www.nihr.ac.uk/about-us/how-we-are-managed/managing-centres/about-the-trainees-coordinating-centre.htm.
- 5 National Institute for Health Research. Clinical research network. www.nihr.ac.uk/explore-nihr/support/clinical-research-network.htm.
- 6 British Neurosurgical Trainee Research Collaborative. www.bntrc.org.uk.
- 7 NHS England. Clinical entrepreneur. www.england.nhs.uk/ourwork/innovation/clinical-entrepreneur.
- 8 Society of British Neurological Surgeons. www.sbn.org.uk.
- 9 Royal College of Surgeons of England. Revalidation guidance. www.rcseng.ac.uk/standards-and-research/standards-and-guidance/revalidation/guidance.
- 10 BMA. Volunteering as a SAS doctor or consultant. www.bma.org.uk/advice/career/going-abroad/volunteering-abroad/sas-and-consultant.
- 11 Médecins Sans Frontières. www.msf.org.uk.
- 12 MERLIN. www.merlin.org.uk.
- 13 Voluntary Service Overseas. www.vsointernational.org.

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