

Surgical specialties



The Royal College of Surgeons of England

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Introduction

This booklet is designed to help you plan your surgical career by providing an overview of the nine surgical specialties. It is intended to supplement the College's booklet *Career options in surgery: A guide to planning your surgical career*, which contains further information on the nature of a surgical career as well as suggesting ways to succeed when entering surgery and during your surgical career. This booklet can also be used alone as a source of information on the surgical specialties.

There are nine recognised specialties within surgery, each of which will provide you with different challenges and rewards throughout your career:

- > cardiothoracic surgery
- > general surgery
- > neurosurgery
- > oral and maxillofacial surgery
- > otolaryngology (ear, nose and throat: ENT)
- > paediatric surgery
- > plastic surgery
- > trauma and orthopaedic surgery
- > urology

There are some factors that are common to all specialties. For example, whichever specialty you choose, you can expect to undertake some teaching, research, administration, management and other non-surgical tasks. Similarly, all specialties are open to trainees who want to train on a less than full-time basis. However, each specialty also has its own unique challenges and appeal.

For each of the specialties listed above, this booklet outlines the type of work involved, working conditions and possible future trends. Competition for posts in each of these specialties varies year by year. Where possible, an indication of the level of competition you can expect to face when entering each specialty is given. However, more information about this is available from the Modernising Medical Careers (MMC) website: <http://www.mmc.nhs.uk/>

As you become more adept in your chosen specialty, you will have the opportunity to sub-specialise further. This booklet outlines some of main areas of sub-specialisation within each surgical specialty. It also provides information on how and if the training pathway for each specialty differs from the standard training pathway. You can find an outline of the standard training pathway on both the MMC website and the College's website: <http://www.rcseng.ac.uk/career/>.

Cardiothoracic surgery

Background

Cardiothoracic surgery is the specialty of medicine that deals with the diagnosis, evaluation and surgical management of diseases of the heart, lungs, oesophagus and chest. Cardiothoracic surgeons undertake surgical treatment of a wide range of serious conditions that include cardiac surgery (heart and great vessels), thoracic surgery (organs within the thorax, excluding the heart), transplantation and heart failure surgery, oesophageal surgery, and congenital surgery in adults and children.

Procedures tend to be major and often complex. Many of these operations require support from advanced forms of technology such as cardiopulmonary bypass, invasive monitoring and minimally invasive equipment. Within cardiac surgery, the most common operations are coronary artery bypass grafting and valve operations. In thoracic surgery, the most common operation is lobectomy or pneumonectomy for carcinoma of the lung.

Due to the serious nature of the conditions and the scale of the operations, many cardiothoracic patients require care-intensive therapy units and cardiothoracic surgeons are also proficient in this aspect of their patients' care.

Sub-specialties

While many cardiothoracic surgeons develop proficiency in the broad range of the specialty, you may prefer to specialise in specific areas of interest and develop expertise in more complex areas of these fields. The subdivisions of cardiothoracic surgery include:

- > cardiac surgery
- > thoracic surgery
- > surgery of the aorta
- > transplantation and heart failure surgery
- > congenital surgery in children
- > congenital surgery in adults
- > oesophageal surgery

Working conditions

Cardiothoracic surgery tends to be concentrated into large regional or teaching hospitals, where there is easy access to all medical and support facilities.

Clinical time is split evenly between operating, outpatient work, time spent with patients and families, and administration. It involves less emergency work than some other specialties such as general or orthopaedic surgery.

Heart transplant surgery involves long, demanding surgery, often at night. There are relatively low numbers of patients but you will continue to see them for a long period of time. There is scope for research and academic activities.

Cardiothoracic surgeons generally work closely with their colleagues in cardiology, respiratory medicine, oncological medicine, anaesthesia and intensive care. You will also have close professional relationships with other non-medical staff such as perfusionists, intensive care staff and operating department personnel.

Competition

Cardiologists now treat some conditions previously treated by surgeons, meaning fewer cardiothoracic surgeons are required. Entry into cardiothoracic surgery is therefore currently extremely competitive and there is projected to be a shortage of consultant posts for future trainees.

Future trends

Although many more patients are now treated by percutaneous intervention than by cardiac surgery, the increasing age of the population has maintained the requirement for many patients to have surgical revascularisation, often for increasingly complex disease. Changing demographics and downward pressure on waiting times are also increasing the demand for surgery for valvular heart disease.

In thoracic surgery there is some evidence that too few resections for lung cancer are being performed in the UK when compared to similar countries; this, combined with an increasing trend for the management of all patients suffering from lung cancer to be discussed at multidisciplinary meetings, is increasing the need for surgeons who specialise in thoracic surgery.

General surgery

Background

General surgery is a large specialty dealing with large numbers of emergency admissions and a very wide range of elective procedures. Most emergency general surgery patients suffer from acute conditions of the abdomen. However, other conditions, including trauma, require a holistic approach and a wide range of skills and experience that may involve working with colleagues from different specialty areas.

Sub-specialties

The majority of general surgeons practise electively in one or more specialist areas while managing emergencies in general surgery. However, particularly in vascular and breast surgery, practice may be exclusively in a specialist area.

Laparoscopic surgery is recognised as a separate and important skill that is necessary across practically the whole of general surgical practice and its sub-specialties and may itself be practised as a sub-specialty.

The sub-specialties of general surgery include:

- > breast
- > colorectal
- > endocrine
- > upper gastrointestinal
- > transplant
- > vascular

Breast

Breast surgeons deal with the vast majority of patients with both benign and malignant breast disease. The small number of breast emergencies, such as breast abscesses, are managed initially by the on-call general surgical team. Breast surgery has less on-call commitment than some areas of general surgery as most work is elective. However, clinics can be busy.

The breast surgeon is a key member of a multidisciplinary team (MDT) engaged in the diagnosis and treatment of both symptomatic and screen-detected cancers. The majority of breast units are now able to offer breast reconstruction following cancer resection, either performed by general surgeons trained in reconstruction or in collaboration with a local plastic and reconstructive service.

Colorectal

Colorectal surgery deals with diseases of the small bowel, colon, rectum and anal canal. You will have a heavy workload as many patients suffer from large bowel cancer and present as emergencies or requiring urgent treatment. Colorectal surgeons work closely with medical gastroenterologists, radiologists and physiological measurement staff. Most medium-sized district general hospitals will have several general surgeons on the staff who deal with the elective and urgent colorectal workload.

Endocrine

Endocrine surgery deals with benign and malignant disease of the thyroid, parathyroid and adrenal glands in conjunction with endocrinologists, renal physicians and oncologists as members of a local endocrine MDT. Adrenal and pancreatic endocrine surgery (both part of sub-specialist training) are not included within the remit of all endocrine surgeons.

Upper gastrointestinal

Upper gastrointestinal (GI) surgery includes both hepatopancreaticobiliary and oesophagogastric surgery. Although the majority of the sub-specialist activity involves treatment of patients with malignancy, there are also benign conditions increasingly being dealt with by sub-specialists. Medium-sized hospitals will have general surgeons on staff who offer an elective service that deals with most of the common conditions affecting the upper GI and biliary tract. The service for the treatment of upper GI tract cancers is mostly based at large hospitals and falls within the remit of the MDT. Within each region there are normally one or two units providing a specialist service for oesophageal, hepatobiliary and pancreatic conditions.

Transplant

Kidney transplant surgeons are primarily responsible for cadaveric and living donor kidney transplantation, and vascular and peritoneal access. You will also care for emergencies and common elective surgical conditions that occur in patients with renal failure. Transplant surgeons work closely within multi-professional teams in renal and transplant units.

Although some surgeons provide a service purely in kidney transplantation and access, others combine this with general surgery, another surgical sub-specialty or liver/pancreas transplantation. Some liver transplant surgeons are pure liver transplant surgeons with perhaps a major commitment to paediatric transplantation while others will combine this with kidney/pancreas transplantation or with hepatopancreaticobiliary surgery.

Vascular

As a vascular surgeon you will deal with vascular disease affecting the vessels of the neck, trunk and limbs. Vascular surgery has become one of the most clearly defined sub-specialties within the domain of general surgery. It has large numbers of urgent and emergency admissions and has an extensive supporting infrastructure from interventional radiologists, cardiothoracic surgeons, cardiologists and ultrasonographers. Larger teaching hospitals have pure vascular specialists. The interface between the provision of vascular surgical services and renal transplantation, especially with regard to access for haemodialysis, has always been close and is likely to remain so.

Increasingly, vascular surgeons are making use of endovascular options as the first line of treatment for many vascular diseases. It is likely that the vascular surgeons of the future will be dually trained and accredited in both endovascular and open vascular surgical techniques and hybrid training programmes are currently being piloted.

Working conditions

These will vary depending on the sub-specialty of general surgery in which you work. There is likely to be a relatively high proportion of emergency work in all sub-specialties.

General surgeons in many of the sub-specialties are needed in most areas of the UK. There is also a need, principally but not exclusively, in smaller hospitals for more generally trained surgeons competent in the management of the common conditions of the GI tract, both upper and lower.

Remote and rural surgery is required in areas (often outside the UK) where there is great geographical distance between cities. Since sub-specialist help is not readily available for emergency cases, you will need good judgement and a wide range of competencies, including some from other surgical specialties.

Competition

Due to the focus on the treatment of cancer in recent years, there has been a rapid increase in the number of colorectal surgeons.

Neurosurgery

Background

Neurosurgery encompasses the diagnosis, assessment and surgical management of disorders of the nervous system, including the brain, central nervous system and spinal cord. It covers all aspects of brain surgery, from pre-operative imaging to removal of tumours.

Sub-specialties

Although you are likely to need a comprehensive knowledge across the specialty, some of the specialist areas within neurosurgery that you may focus on include:

- > paediatric neurosurgery
- > neuro-oncology
- > functional neurosurgery
- > head injury
- > neurovascular surgery
- > skull-base surgery
- > spinal surgery

Paediatric neurosurgery

Paediatric neurosurgery constitutes 10–15% of all neurosurgical activity. To ensure appropriate levels of activity and expertise, it is normally concentrated in larger centres although the majority of paediatric surgeons also treat adults.

Neuro-oncology

Neuro-oncology involves the management of both benign and malignant tumours of the nervous system. Gradual progress has followed the refinement of surgical techniques using radiological and functional guidance, improvements in adjuvant chemotherapy and radiotherapy, greater understanding of the molecular biology of central nervous system tumours and better organisation of oncology services.

Functional neurosurgery

Functional neurosurgery is the surgical management of a wide range of neurological problems including intractable pain, epilepsy, spasticity and movement disorders. Traditional ablative surgery is being replaced by deep brain and spinal cord stimulation.

Head injury

Traumatology involves the treatments of head injuries, which remain a major cause of death and disability in children and young adults. Neurosurgical intervention and neuro-intensive care lead to substantially better outcomes in such cases. Close collaboration with the neuro-intensive care unit and then later the rehabilitation services is very important.

Neurovascular surgery

Neurovascular surgeons work closely with their interventional colleagues dealing with complex aneurysms, vascular malformations and occlusive cerebrovascular disease. Subarachnoid haemorrhage and its complications form the core of this work. Again, close collaboration with the neuro-intensive care unit is mandatory.

Skull-base surgery

Technical advances in microsurgery, surgical approaches and reconstructions have been incorporated into the routine practice of surgeons dealing with disorders of the skull base, including common tumours. Skull-base surgery is often undertaken jointly with neuro-otological, plastic and maxillofacial surgeons. Adjuvant treatments

with sophisticated radiosurgery and fractionated stereotactic radiotherapy have improved clinical outcomes for patients with skull-base tumours.

Spinal surgery

This is the largest subspecialty in neurosurgery, accounting for more than 50% of the operative workload of some departments. It is possible to practise exclusively as a spinal surgeon. Many departments offer a comprehensive service for primary and secondary spinal malignancy, spinal trauma, spinal pain and degenerative spinal disorders. The demand for spinal surgery grows steadily, particularly in the elderly population.

Working conditions

Neurosurgical services in the UK are provided from regional neuroscience centres serving populations of between 1 and 3.5 million. There are neurosurgery units in most major cities but you may be limited in where you work outside these. Most regional centres offer a comprehensive range of adult services but rare and complex disorders are managed in units with specialist expertise.

Fewer than 5% of trained neurosurgeons work in the career grades. Almost all neurosurgical consultants are involved in the delivery of emergency services and must therefore be competent to manage a wide range of adult conditions and to provide basic emergency paediatric care.

Emergency work accounts for more than 50% of neurosurgical caseload, with much of this being trauma. On-call work can be intensive with out-of-hours emergency operating. Most consultant neurosurgeons spend four to five sessions in the operating theatre per week. (One session is approximately half a day's work.) The remainder of their time is spent on pre- and post-operative ward care, outpatient clinics, teaching and other administrative duties.

Specialist elective care is provided by neurosurgeons with special interest training, usually working in MDTs with colleagues in the clinical neurosciences, neuro-oncology, endocrinology and surgical disciplines including otolaryngology, maxillofacial, plastic and orthopaedic surgery.

Training

Neurosurgery training follows directly from core neuroscience training, with no additional recruitment stage at ST3 level.

The intermediate stage provides two years in full-time general neurosurgical training (ST4–5). The final three-year stage (ST6–8) incorporates a year of special interest training. The emphasis changes as you progress through the programme, from acquiring core neuroscience knowledge and competencies in ST1 to developing technical operative skills and surgical judgement in the final stage. You will not start specialist interest training until your programme director is satisfied with your general neurosurgical training and your acquisition of microsurgical and advanced operative skill.

Future trends

Further advances in neuro-oncology are likely to be based on advances in basic oncological science and the sophisticated delivery of intra-lesional therapies.

In functional neurosurgery, research into neuromodulation using gene therapy, biological vectors and pharmacological agents offers the prospect of effective treatment for neurodegenerative diseases and disabling psychiatric conditions.

Oral and maxillofacial surgery

Background

Oral and maxillofacial surgery (OMFS) is concerned with the diagnosis and treatment of diseases affecting the mouth, jaws, face and neck. The scope of the specialty is extensive and procedures range from minor surgery to complex major head and neck surgery. OMFS involves surgery on both hard and soft tissue.

Sub-specialties

Specialist areas include:

- > head and neck oncology
- > adult facial deformity
- > orthognathic surgery
- > cleft surgery
- > facial trauma management

Working conditions

You will frequently work alongside other specialists, including orthodontists, oncologists, neurosurgeons, plastic surgeons and ENT surgeons.

OMFS has a relatively low on-call commitment compared to other surgical specialties. Most of your time will be spent in clinics or operating, with your remaining time spent teaching, doing administration or carrying out on-call duties.

Training

OMFS is unique in requiring a dual qualification in medicine and dentistry. However, you can work as an oral surgeon with a single qualification; there are currently a number of staff grade surgeons who have pursued this route.

The majority of maxillofacial surgeons working in the UK have qualified in dentistry before qualifying in medicine. The specialty is, however, open to trainees qualifying first in medicine and then obtaining a qualification in dentistry. The majority of dental graduates will obtain an MFDS (member of the Faculty of Dental Surgery) qualification before or during their medical training. However, an MFDS is not a requirement for entry into specialist training.

Currently, entry to entry to OMFS training is via one year core training in CT I, with OMFS specialty training beginning at ST2 level.

Competition

There are fewer people qualified to enter this specialty as dual qualification is required. However, it remains a competitive specialty.

Future trends

OMFS is well suited to research as the discipline has a strong academic base within UK dental schools. There are active research projects in head and neck cancer, craniofacial trauma, day case and high volume surgery, facial deformity and salivary lithotripsy.

Otolaryngology (ENT surgery)

Background

Otolaryngology (or ear, nose and throat – ENT) deals with all aspects of the ears, nose and throat, including cancers of the head and neck region, skull-base surgery and facial plastic surgery. ENT manages both surgical and medical disorders involving the head and neck, with much overlap with maxillofacial surgery, neurosurgery, plastic surgery and ophthalmology. You will deal with patients of all ages; as a specialty, otolaryngology is responsible for surgical management of more paediatric patients than any other single surgical discipline.

Sub-specialties

Specialist areas include:

- > head and neck oncology
- > complex otology (including cochlear implantation)
- > paediatric ENT (although all ENT surgeons will operate on children)
- > voice and complex airway
- > facial plastics/complex rhinology
- > skull-base surgery/neuro-otology

Working conditions

Elective surgical sessions are likely to involve no more than two days a week. Emergency work is light but often dramatic when airway specialists are required. ENT has considerably less inpatient work than other specialties as often the patients are otherwise reasonably fit and well and recover relatively quickly.

There is a significant medical side to ENT with conditions being potentially treated with appropriate medication. Much diagnostic work is performed using microscopes and endoscopes in clinics. There is extensive and expanding use of new technology including lasers, microscopes, endoscopes, image guidance, robotic surgical systems, 3D virtual simulators and implantable materials/devices (particularly cochlear implantation).

Competition

As with all specialties, there is much competition for consultant posts at the end of training, particularly at present. However, there is considerable workforce planning to ensure that the numbers being trained will reflect the numbers of consultants required in the future.

Future trends

Diagnostic testing in the outpatient department should continue to improve, particularly with the potential for tissue sampling via nasendoscopes. Hearing surgery should continue to improve and expand, and the popularity of faciofacial surgery is likely to continue to increase.

The use of robots, surgical navigation systems and lasers may further facilitate minimally invasive surgical options and, as otolaryngology is a technology-driven specialty, 'the sky is the limit'. Many more cases will be performed as day case surgery.

Paediatric surgery

Background

Paediatric surgery deals with the diseases, trauma and malformations of childhood years (foetal period to teenage years). The routine workload has a very general focus and you will develop experience and skills across the breadth of surgery. To facilitate this, the training is broad based and comprehensive. You will undergo a specific training programme to furnish you with the knowledge, skills and professional attitudes necessary for dealing with children and their families.

Paediatric surgeons perform a relatively small proportion of all uncomplicated operations on children. The remaining minor and uncomplicated general surgical operations are performed mainly by surgeons from other specialties who have an interest in paediatric conditions.

Sub-specialties

There is an increasing trend for paediatric surgeons to develop further specific expertise in different areas of practice such as:

- > neonatal surgery
- > urological surgery
- > hepatobiliary surgery
- > GI surgery
- > oncological surgery

Working conditions

There are few centres that specialise in paediatric surgery so you may be limited in your geographical location. At present the majority of specialised children's surgery is performed in specific children's hospitals or in paediatric surgical units within larger hospitals. In these settings, teams of health professionals led by consultant paediatric surgeons will provide the necessary services to diagnose, treat surgically and support the rehabilitation of children with various ailments.

You are very likely to have a commitment to an emergency workload although the nature of delivery of that will vary between different units. Flexible working is possible within paediatric surgery even though the emergency commitments at a consultant level could be very onerous. A large proportion of elective workload comprises day case surgery. If you are interested in both paediatric and general surgery, you may train in general surgery before being trained to develop an interest in paediatric surgery.

Future trends

Laparoscopy and the potential for robotics are important areas for future development. Cost implications are currently limiting this in all but a few centres in the UK. This seems likely to change.

Antenatal surgery, formerly seen as the most likely focus for change in paediatric surgery, is still only practised by a small number of surgeons, although this may change as techniques develop.

Plastic surgery

Background

Plastic and reconstructive surgery is the branch of surgery concerned with the restoration of normal form and function. It is a varied specialty involving adults and children and encompassing a wide range of conditions in different parts of the body. Around 80% of all plastic surgery is reconstructive.

Major research areas include wound healing and scar management. The specialty is known for the innovations and advances it has brought to the practice of surgery in general. This includes the use of microsurgical techniques, the understanding of the blood supply of the skin and soft tissues allowing the introduction of many types of flap used in clinical practice, and the introduction of tissue engineering methods in the development of skin substitutes.

Sub-specialties

A major proportion of your workload will be urgent or emergency cases including:

- > hand trauma
- > burns and scalds
- > soft tissue injuries involving face, trunk or limbs

Elective surgery includes the following major areas:

- > head and neck: including excisional and reconstructive surgery for congenital and acquired abnormalities, and for malignancy involving the face and mouth;
- > cleft lip and palate and other craniofacial abnormalities;
- > breast: including surgery for reconstruction, reduction and augmentation;
- > hand and upper limb: including congenital and acquired conditions;
- > skin and soft tissue tumours;
- > congenital and acquired deformities of the trunk and urogenital system; and
- > aesthetic or cosmetic surgery.

Working conditions

One of the most interesting aspects of the specialty is the frequency with which plastic surgeons work with surgeons from other specialties such as general surgery, orthopaedics, otolaryngology and maxillofacial surgery.

Much of the workload involves dealing with urgent or emergency cases and you will have a busy on-call commitment. Most out-of-hours work involves burns injury and the treatment of severe facial, hand and lower limb injuries.

UK plastic surgeons have a strong tradition of travelling abroad, including work in disaster zones helping to tackle large demands for reconstructive work. An increasing number of trainees complete a cosmetic fellowship following the Certificate of Completion of Training. This may become compulsory in a bid to ensure that cosmetic surgery is carried out by appropriately trained individuals.

Competition

Plastic surgery is generally considered to be one of the more competitive areas of surgery. It is a relatively small specialty with limited training opportunities.

Future trends

The specialty is planning to increase consultant numbers and this will be reflected by some increase in recognised training posts.

Trauma and orthopaedic surgery

Background

Trauma and orthopaedic surgery is one of the largest surgical specialties and deals with injuries, congenital and acquired disorders of the bones, joints and their associated soft tissues, including ligaments, nerves and muscles. There are considerable opportunities for research and for sub-specialisation.

Sub-specialties

The vast majority of surgeons also have a specialist elective interest in orthopaedic conditions, often based on an anatomical region of the body including the following:

- > lower limb joint reconstruction
- > hip surgery
- > knee surgery (bony and soft tissue)
- > ankle and foot
- > upper limb (shoulder and elbow)
- > upper limb (hands)
- > spine
- > bone tumour surgery
- > paediatric orthopaedics
- > rheumatoid surgery
- > sports and exercise surgery
- > complex trauma surgery

Some surgeons have very highly specialised practices in one of these areas and a few do not take part in general trauma surgery.

Working conditions

Most consultants contribute to an emergency trauma workload dealing with injured patients admitted through A&E departments. The trauma work involves fractures and other injuries in patients of all ages. Trauma work can be late night and there is a relatively demanding on-call commitment. Most trauma operations are scheduled for the following day's list so very little surgery is actually done at night. Career grade doctors can have a rota that includes on-call work.

Trauma and orthopaedics has a reputation for being a very physical specialty but uses many specialist tools that reduce the need for excessive force. In reality, there is a huge amount of kit involved so it appeals to those who like thinking in 3D.

Orthopaedic surgeons operate around 40% of the time, with the rest divided between clinics, ward work and on-call commitments.

Competition

Trauma and orthopaedics is one of the more competitive areas of surgery as well as being one of the largest specialties.

Urology

Background

Urological surgery is the branch of medicine that deals with the diseases, trauma and malformations of the urogenital system (usually teenage years and throughout adulthood). This includes diseases of the kidney, urinary tract stones, cancer (prostate, bladder, testicle and kidney), prostate, incontinence, erectile dysfunction, etc. Some time is spent managing chronic conditions. Investigating and treating patients with prostate symptoms or bladder cancer will take up a large amount of your time.

Sub-specialties

You may focus on:

- > complex pelvic surgery
- > uro-gynaecology, including incontinence and artificial urinary sphincter
- > paediatric urology
- > andrology (male sexual health)
- > endourology (kidney stones and cancer)
- > laparoscopy and robotics

Working conditions

Urological surgeons undertake three to four operating sessions a week, including day-case surgery. They also undertake outpatient clinics and (possibly) special clinics, management/administration, teaching and research. Urology on call is usually not arduous and in smaller units it is increasingly common to cross-cover with neighbouring hospitals to reduce the on-call frequency. Urological surgeons have many opportunities for working across specialties, such as with gynaecological and colorectal surgeons.

Traditionally, urological surgery has been delivered within the hospital setting by urologists. Recent initiatives have led to increasing centralisation of complex urological surgery, particularly urological oncology serving populations over 1 million. This trend is increasingly applying to other areas of specialist urology.

'Office urology' is evolving. This involves work in clinics and day-case procedures, with much use of endoscopy but no open theatre cases.

Urology offers a good mix of benign diseases as well as oncology and also a combination of endoscopic and open major surgery, which is becoming increasingly laparoscopic or robotic. Urology is also at the cutting edge of science, with many exciting developments recently coming from bench to bedside.

Future trends

It is likely that the emphasis towards greater specialisation will continue, especially in the sphere of elective practice.

There has been a revolution in the delivery of urological surgery over the past ten years with increasing emphasis on minimally invasive and laparoscopic surgery. These trends are likely to continue.

Robotic surgery is just gaining a foothold in the UK, particularly in the field of radical prostatectomy. This trend is likely to continue. Medical therapy for many urological conditions (including lower urinary tract symptoms, incontinence, prostate cancer and erectile dysfunction) has been introduced over the past ten years. It is likely that ever more medical therapies will be developed for the whole range of urological diseases.

Other options to consider

Military surgery

Military surgeons have particular skills in triage, trauma and casualty evacuation. The military general surgeon provides the non-orthopaedic trauma service in war and on stable (peace-keeping) deployments. He or she also provides a general surgery service to deployed military and civilian personnel and, occasionally, to local civilians.

Surgeons in a variety of specialties are required by all of the armed forces: the army, navy and RAF. More information regarding these careers can be found at <http://www.army.mod.uk/join/>, <http://www.royalnavy.mod.uk/careers> and <http://www.raf.mod.uk/careers/>.

Alternative, related specialties

If you find that surgery is not the right career for you but you remain attracted to some aspects of the surgical career, you may like to consider alternative medical specialties that share some traits with surgery. These include ophthalmology, obstetrics and gynaecology, and anaesthesia, among others. More information about each of these careers is available from the relevant royal college.

Academic surgery

Academic surgery involves some clinical work as well as some research or teaching in a higher education setting. You will need to be committed to both the clinical aspect of the job and the research. More information about careers in academic surgery is available from <http://www.nccr.cd.nhs.uk/> and the booklet *Career options in surgery: A guide to planning your surgical career*.

Specialty association websites

Cardiothoracic surgeons

Society for Cardiothoracic Surgery in Great Britain and Ireland
www.scts.org

General surgery

Association of Surgeons of Great Britain and Ireland
www.asgbi.org.uk

Association of Breast Surgery at BASO
www.baso.org

Association of Coloproctology of Great Britain and Ireland
www.acpgbi.org.uk

Association of Laparoscopic Surgeons
www.alsgbi.org

Association of Upper Gastrointestinal Surgeons
www.augis.org

British Association of Day Surgery
www.daysurgeryuk.org

British Association of Endocrine Surgeons
www.baes.info

British Transplantation Society
www.bts.org.uk

The Vascular Society
www.vascularsociety.org.uk

Society of Academic and Research Surgery
www.surgicalresearch.org.uk

Association of Surgeons in Training
www.asit.org

Neurosurgery

Society of British Neurological surgeons
www.sbns.org.uk

Oral and maxillofacial surgeons

British Association of Oral and Maxillofacial Surgeons
www.baoms.org.uk

Otolaryngology

ENT UK
www.entuk.org

Paediatric surgery

British Association of Paediatric Surgeons
www.baps.org.uk

Plastic surgery

British Association of Plastic, Reconstructive and Aesthetic Surgeons
www.bapras.org.uk

British Association of Aesthetic Plastic Surgeons
www.baaps.org.uk

Trauma and orthopaedic surgery

British Orthopaedic Association
www.boa.ac.uk

British Orthopaedic Trainees Association
www.bota.org.uk

Urology

British Association of Urological Surgeons
www.baus.org.uk

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