

Trauma and orthopaedic surgery

Trauma and orthopaedic surgeons diagnose and treat a wide range of conditions of the musculoskeletal system. This includes bones and joints and their associated structures that enable movement - ligaments, tendons, muscles and nerves. Trauma and orthopaedic surgery is often abbreviated to T&O surgery.

This page provides useful information on the nature of the work, the common procedures/interventions, sub-specialties and other roles that may interest you.



Nature of the work

There are two aspects to the work:

- trauma – injuries to the musculoskeletal system, such as broken, fractured or dislocated bones and soft tissue injuries
- congenital and degenerative conditions of the musculoskeletal system, as well as infections and tumours

Trauma can range from low energy fractures (often in elderly patients) to multiple injuries such as those caused by a road traffic accident. Bone and joint infection can also require emergency admission and

treatment.

T&O surgeons work with patients of all ages from babies to elderly people.

“I love T&O surgery, as you often have the opportunity to immediately improve someone’s life”. Edward Gee, specialty registrar, Lancashire Teaching Hospitals NHS Foundation Trust.

Read Edward’s story [1]

Common procedures/interventions

- **joint arthroscopy** – a thin telescope with a light (arthroscope) is inserted into joints via a small incision to investigate joint problems. This is most commonly the knee but other joints can also be investigated in this way. The arthroscope can be used to look for signs of arthritis and show possible damage to cartilage or ligaments. Minimally invasive surgery can be performed to repair damaged tissue by removing floating cartilage, torn ligaments or tissue around the joint that has become inflamed
- **bone fracture repair** – surgery to repair a broken bone using metal screws, pins, rods or plates to hold the bone in place. Many different techniques are used depending on the location, severity and type of fracture to ensure that the bones are stable, heal correctly and maintain function. A bone graft may be used where the bone has been shattered
- **arthroplasty** – the replacement of whole joints following damage due to osteoarthritis or rheumatoid arthritis. Knee and hip replacements are the most common operations. Newer techniques such as partial knee resurfacing are being used for patients in the early stages of osteoarthritis
- **general repairs on damaged muscles or tendons** – these could be acute injuries due to trauma, or chronic injury due to progressive deterioration of the tissue
- **corrective surgery** – eg patella (knee-cap) realignment. These procedures correct problems of anatomical alignment which limit function and could cause long-term problems if left untreated. This surgery is often carried out on babies and children for congenital deformities

T&O surgeons have the opportunity to use the latest surgical technologies including minimally invasive techniques. Another new development is computer aided navigation during surgery which enables 3D mapping of a joint. This gives the surgeon a greater degree of accuracy when making incisions.

Consultants normally teach undergraduate and postgraduate medical students and supervise surgical trainees. T&O surgeons also undertake audit and committee work. With experience there are excellent opportunities to become involved in management and to actively participate in professional organisations.

Sub-specialties

Most T&O surgeons develop a subspecialty (usually towards the end of their specialist training) and these include:

- a particular area of the body – eg foot/ankle, shoulder/elbow, hand, upper limb, pelvis
- joint reconstruction – eg hip or knee
- orthopaedic oncology [2]
- paediatric surgery
- spinal surgery
- sports injury surgery
- complex trauma surgery

What to learn more?

Find out more about:

- the working life [3] of someone in T&O surgery
- the entry requirements [4] and training and development [5]
- two first-hand accounts of life:
 - as a specialty registrar [1]
 - as a consultant in trauma and orthopaedic surgery [6]

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Pay and conditions

This section provides useful information about the pay for junior doctors (doctors in training), SAS doctors (specialty doctors and associate specialists) and consultants.

Find out more about current pay scales for doctors [7], more information can be found on the BMA website [8].

NHS Employers [9] provides useful advice and guidance on all NHS pay, contracts terms and conditions.

Medical staff working in private sector hospitals, the armed services or abroad will be paid on different scales.

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Where the role can lead

Read about consultant and non-consultant roles in T&O surgery, flexible working and about wider opportunities.

T&O surgery is a highly competitive specialty, with varied and interesting career opportunities.

Consultant roles

You can apply for consultant roles six months prior to achieving your Certificate of Completion of Training [10] (CCT [11]). You will receive your CCT [11] at the end of your T&O training.

Managerial opportunities for consultants include:

- clinical lead - lead NHS consultant for the team
- clinical director - lead NHS consultant for the department
- medical director - lead NHS consultant for the Trust

Most NHS consultants will be involved with clinical and educational supervision of junior doctors.

Here are some examples of education and training opportunities:

- director of medical education - the NHS consultant appointed to the hospital board who is responsible for the postgraduate medical training in a hospital. They work with the postgraduate dean to make sure training meets GMC standards.
- training programme director - the NHS consultant overseeing the education of the local cohort of trainee doctors eg foundation training [12] programme director. This role will be working

within the LETB/deanery

- associate dean - the NHS consultant responsible for management of the entirety of a training programme. This role will be also be working within the LETB/deanery

SAS doctor roles

There are also opportunities to work at non-consultant level, for example as a SAS (Specialist and Associate Specialist) doctor.

SAS surgeons (Staff, Associate Specialists and Specialty Doctors) work as career grade specialty doctors who are not in training or in consultant posts. You will need at least four postgraduate years training (two of those being in a relevant specialty) before you can apply for Specialty Doctor roles.

The role of an SAS surgeon can vary greatly. Depending on your experience, you might work on complex surgery or relatively minor diagnostic and outpatient work. SAS doctors will frequently participate in routine and elective [13] surgery rather than emergency work. They also train other staff.

Some surgeons are attracted to the SAS role as the hours are more regular than those of the consultant, and any on-call work and overtime beyond 7am-7pm is paid.

Find out more about SAS doctor roles [14].

Other non-training grade roles

These roles include:

- trust grade
- clinical fellows

Other opportunities

T&O surgeons often undertake research, which includes collaborating with colleagues in the UK and overseas, writing papers and presenting work at conferences. There are good opportunities for research, for example in stem cell research and nanomedicine (manipulating atoms or molecules for example in tissue engineering).

Research is also being conducted into the best and most effective materials for use in joint replacement (including metals, plastics and ceramics). It is also possible to work as a clinical academic, where a large percentage of the working week is assigned to research.

Research within this specialty, as is often the case, is subject to financial constraints. There is not always sufficient money to carry out all the necessary work.

There may also be opportunities to work in the private sector and overseas.

Academic pathways

If you have trained on an academic T&O pathway or are interested in research there are opportunities in academic medicine.

For those with a particular interest in research, you may wish to consider an academic career in T&O surgery. Whilst not essential, some doctors start their career with an Academic Foundation post. Entry is highly competitive. This enables them to develop skills in research and teaching alongside the basic competences in the foundation curriculum [15].

Entry into an academic career would usually start with an Academic Clinical Fellowship (ACF) at ST1-2 and may progress to a Clinical Lectureship (CL) at ST3 and beyond. Alternatively some trainees that begin with an ACF post then continue as an ST trainee on the clinical programme post-ST4.

After completion of the academic foundation trainees can then apply for academic core training posts (instead of normal core training). A PhD is often taken, either during core or specialty training.

Applications for entry into Academic Clinical Fellow posts are coordinated by the National Institute for Health Research Trainees Coordinating Centre (NIHRTCC). [16]

There are also numerous opportunities for trainees to undertake research outside of the ACF/CL route, as part of planned time out of their training programme. Find out more about academic medicine [17].

The Clinical Research Network [18](CRN) actively encourages all doctors to take part in clinical research.

-  Job market and vacancies

This section provides useful information about the availability of jobs, how to find vacancies and sources of further information.

Job market information

NHS Digital regularly publish workforce statistics which show the number of full time equivalent consultants and doctors in training for each specialty: NHS Digital workforce statistics [19].

Competition ratios for medical specialty training places are published on Health Education England's specialty training webpage [20].

For information regarding Scotland, Wales and Northern Ireland please click on the links below:

[NHS Scotland workforce information \[21\]](#)

[NHS Wales workforce information \[22\]](#)

[NHS Northern Ireland workforce information \[23\]](#)

Where to look for vacancies

Applications for core surgery training are made via the Core Surgery National Recruitment Office. Further details including closing dates can be found on the Office's website [24].

London and the South East (LaSE) nationally coordinates the recruitment into Core Surgery Training round one (CT1) on behalf of England, Wales and Scotland.

Health Education Yorkshire and the Humber coordinates national recruitment for T&O ST3 training. [25]

Core surgical, run-through and higher specialist T&O surgical training are open to those who may want to train flexibly on a less than full-time basis (LTFT). You can request and apply for this after you have been offered the job. Restrictions apply. Find out more about LTFT training [26].

Registration and application for core surgery and specialist training is online via Oriel [27].

Northern Ireland has its own recruitment process. For further details please visit the Northern Ireland Medical and Dental Training Agency [28] website.

- [Further information](#) Expand / collapse

Organisations

British Orthopaedic Association [29]

British Orthopaedic Trainees Association [30]

British Medical Association [31]

Future Orthopaedic Surgeons [32]

Joint Committee on Intercollegiate Examinations [33]

General Medical Council [34]

The Royal College of Surgeons of England [35]

The Royal College of Surgeons of Edinburgh [36]

Royal College of Physicians and Surgeons of Glasgow [37]

Real-life stories

Consultant Trauma and Orthopaedic Surgeon [38]- Council member Royal College of Surgeons

A career in trauma and orthopaedics [39]- Alexander F Young, Benjamin C Caesar, Lee A David

Other roles that may interest you

- Anaesthesia [40]
- Emergency medicine [41]
- Rheumatology [42]
- Sport and exercise medicine [43]

Source URL: <https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/surgery/trauma-and-orthopaedic-surgery>

Links

[1] <https://www.healthcareers.nhs.uk/explore-roles/surgery/trauma-and-orthopaedic-surgery/real-life-story-mr-edward-gee>

[2] <https://www.healthcareers.nhs.uk/glossary#Oncology>

[3] <https://www.healthcareers.nhs.uk/explore-roles/surgery/trauma-and-orthopaedic-surgery/working-life>

[4] <https://www.healthcareers.nhs.uk/explore-roles/surgery/trauma-and-orthopaedic-surgery/entry-requirements-skills-and-interests>

- [5] <https://www.healthcareers.nhs.uk/explore-roles/surgery/trauma-and-orthopaedic-surgery/training-and-development>
- [6] <https://www.healthcareers.nhs.uk/explore-roles/surgery/trauma-and-orthopaedic-surgery/real-life-story-miss-emily-baird>
- [7] <https://www.healthcareers.nhs.uk/about-us/careers-medicine/pay-doctors>
- [8] <http://bma.org.uk/practical-support-at-work/pay-fees-allowances/pay-scales>
- [9] <http://www.nhsemployers.org/your-workforce/pay-and-reward>
- [10] https://www.healthcareers.nhs.uk/glossary#Certificate_of_completion_of_training
- [11] <https://www.healthcareers.nhs.uk/glossary#CCT>
- [12] https://www.healthcareers.nhs.uk/glossary#Foundation_training
- [13] <https://www.healthcareers.nhs.uk/glossary#Elective>
- [14] <https://www.healthcareers.nhs.uk/i-am/currently-working-health/information-doctors/sas-doctors>
- [15] <http://www.foundationprogramme.nhs.uk/pages/academic-programmes>
- [16] <https://www.nihr.ac.uk/about-us/how-we-are-managed/managing-centres/about-the-trainees-coordinating-centre.htm>
- [17] <https://www.healthcareers.nhs.uk/i-am/currently-working-health/clinical-academic-careers/clinical-academic-medicine>
- [18] <http://www.crn.nihr.ac.uk/>
- [19] <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics>
- [20] <https://specialtytraining.hee.nhs.uk/Competition-Ratios>
- [21] <http://www.isdscotland.org/isd/5345.html>
- [22] <http://wales.gov.uk/topics/statistics/headlines/?lang=en>
- [23] <https://www.health-ni.gov.uk/articles/staff-numbers>
- [24] <http://www.lpmde.ac.uk/laserecruitment/specialties/core-surgery>
- [25] http://www.yorksandhumberdeanery.nhs.uk/recruitment/national_recruitment/national_trauma__orthopaedic_surgery
- [26] <https://www.healthcareers.nhs.uk/i-am/currently-working-health/information-doctors/less-full-time-training-doctors>
- [27] <http://www.oriel.nhs.uk/Web>
- [28] <http://www.nimda.gov.uk/>
- [29] <http://www.boa.ac.uk/>
- [30] <http://www.bota.org.uk>
- [31] <http://www.bma.org.uk>
- [32] <http://www.futureorthopaedicsurgeons.com>
- [33] <http://www.jcie.org.uk>
- [34] <http://www.gmc-uk.org/>
- [35] <http://www.rcseng.ac.uk/>
- [36] <http://www.rcsed.ac.uk>
- [37] <http://www.rcpsg.ac.uk>
- [38] <http://surgicalcareers.rcseng.ac.uk/stories/mrs-scarlett-mcnally>
- [39] <http://careers.bmj.com/careers/advice/view-article.html?id=20001442>
- [40] <https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/anaesthesia>
- [41] <https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/emergency-medicine>
- [42] <https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/medicine/rheumatology>
- [43] <https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/medicine/sport-and-exercise-medicine>