Thinking about a career in anaesthetics?

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Introduction
Anaesthetists make up the largest department in most hospitals, however anaesthetics during medical school is often sparsely taught and largely misunderstood. This booklet aims to provide an insight into some of the various career opportunities that anaesthetics can offer, and hopefully it will dispel any myths or preconceptions about the specialty.

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Why choose a career in anaesthetics?
A trainee perspective

Anaesthetics is the single largest hospital medical specialty. We are often referred to as a doctor’s doctor, perhaps not a familiar specialty to the general public, but our broad skill range means we engage with and facilitate most other specialties throughout the hospital, engendering career opportunities in a wide range of subspecialty areas.

Our role as a peri-operative physician to the surgical patient remains the core of our work. We have a unique opportunity to take care of the patient as a “whole” rather than concentrate on a single organ system. We interact with patients of all ages undergoing surgery ranging from simple to complex, often lifesaving procedures. This role will only continue to expand into the future as anaesthetists lead the development of pre-operative assessment and optimisation, quantification of risk, as well as post-operative care in post anaesthetic care unit (PACU) environments.

Beyond our work in theatres we have a pivotal role in resuscitation and stabilisation in the emergency department, obstetric anaesthesia, intensive care medicine, transport and retrieval of critically ill patients, pre-hospital medicine, pain medicine and non-theatre anaesthesia (including endoscopy, catheter lab, radiology, electroconvulsive therapy, radiotherapy and beyond).

Ours is a specialty requiring the balance of detailed technical and scientific knowledge with dexterity and practical skill. We function as part of and are often called to lead the multidisciplinary team, and are for the main part correctly stereotyped as a friendly, social and approachable specialty. Although you often find yourself busy and under pressure, the reward of your endeavours is often quick to be realised.

Training in anaesthesia is organised, structured and like an apprenticeship, well suited to the current system of competency based training within the limits of the European working time directive. One-to-one consultant tuition from the outset is the norm, not the sought after. Expanding solo practice offers autonomy from an early stage. The work is sessional, flexible and accommodating of less than full time training. The skills you gain are recognised and valued internationally and anaesthetics as a specialty leads the way in recognising the benefits of out of program placements worldwide.

Opportunities extend from your training time to consultancy. Working across many specialty boundaries gives us a unique insight into the “whole picture” of modern healthcare and as such anaesthetists often occupy key management roles in the hospital, as well as being educators and researchers.

Anaesthetics without a doubt offer a career of variety, challenge and intellectual pursuit. Although underrepresented in undergraduate training, it remains an avenue well worth exploring!

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Why choose a career in anaesthetics?  
A consultant perspective

For those wishing to learn the art and science of manipulating pharmacology and physiology to keep patients safe and comfortable, anaesthesia may be for you.

Anaesthetists form the largest group of hospital consultants and are involved in the care of about 50-60% of all inpatients. You will work within a variety of teams throughout the hospital and develop the skills needed to communicate sensitively with patients and their families when they are their most vulnerable.

Anaesthetists are an integral part of nearly all the emergency hospital response teams. Through the use of simulation and real life training, you will become adept at dealing calmly with a wide range of life-threatening medical emergencies and will, from an early stage, become involved in teaching these essential skills to juniors.

The practice of modern anaesthesia requires excellent clinical skills supported by an array of technology. The specialty has always been quick to embrace new technology when it improves patient care and safety and might appeal to those who enjoy working at the forefront of health informatics.

There is a great diversity of sub-specialties an anaesthetist can choose:

- General anaesthetists  
  The provision of safe anaesthesia for a range of patients undergoing a wide variety of surgeries including high-risk patients undergoing major emergency surgery.

- Cardio thoracic anaesthetists
- Neuro anaesthetists
- Obstetric anaesthetists
- Paediatric anaesthetists
- Regional anaesthetists
- Pre-hospital and trauma care, including air ambulance transfer
- Acute or chronic pain medicine
- Intensive care

The diagram on page 4 shows the training pathway most commonly followed. Our training programme is well liked by trainees due to the high proportion of 1:1 consultant teaching and practical procedures they are able to undertake.

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Training pathways in anaesthetics

Training in anaesthetics is subdivided into core training and higher training. There are two core training pathways: Acute Care Common Stem (ACCS) and direct Core Training. Doctors are eligible to start one of these core training pathways after completing the Foundation Programme or they can apply later after spending time in other specialties. However, applicants must have less than 18 months post-foundation experience in anaesthetics by the intended start date. Many Foundation Schools offer rotations in anaesthetics during F1 and F2 years which can be a useful way to experience the specialty.
Acute Care Common Stem (ACCS) training

ACCS is a three-year training pathway designed for those that want to experience further training in acute care. This route is comprised of six months Emergency Medicine, six months Acute Medicine, six months Intensive Care Medicine (ICM) and six months Anaesthetics, followed by a further full year of Anaesthetics. ACCS trainees will cover the same anaesthetic curriculum as those undertaking core training however, depending on local programme design, ACCS trainees may have three months less total anaesthetic training time than core trainees. This is because some ACCS programmes have three months of ICM, whereas others have six months.

Core Anaesthetic training

Core training is a two-year long pathway comprising 21 months of training in Anaesthetics and three months of training in ICM.

Both pathways start with three months of one-to-one training, mostly from consultants, learning the basic principles of anaesthetics including airway management and resuscitation, following which trainees then participate in the on-call rota.

The total time required to undertake training in Anaesthetics is seven years (or eight years if the ACCS pathway is followed). A trainee wishing to complete dual training (in anaesthetics and one other allied specialty) will be required to complete at least eight and a half years.

Advantages of ACCS:

- provides training with broader exposure to acute and emergency care
- provides further training in general medicine
- the experience of working within other specialties helps understanding and teamwork
- it meets minimum requirements for complementary specialty experience for dual training in ICM

Advantages of direct Core Training:

- guaranteed 21 months anaesthetic training time
- total training time is one year shorter

Higher

Higher training is composed of intermediate (two years), higher (two years) and advanced level (one year) components. In this time, trainees rotate between anaesthetic subspecialities including cardiothoracics, neurosurgery, paediatrics and ICM as well as continuing training in general anaesthetic modules for example obstetrics.

Following completion, the General Medical Council issue a Certificate of Completion of Training (CCT) which enables the holder to be able to apply for a consultant post.

Further information

www.rcoa.ac.uk/careers-training

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Opportunities for anaesthetists outside the hospital

There are a number of opportunities for anaesthetists to work in settings outside the hospital. These include providing pre-hospital emergency care, stabilisation and retrieval of critically ill patients and even working as a doctor at public events.

**Pre-Hospital Emergency Medicine (PHEM)**

This branch of anaesthesia is now a General Medical Council approved sub-specialty. It covers a wide range of medical conditions from simple first aid to advanced emergency resuscitation and encompasses a number of out-of-hospital settings, ranging from urban to isolated rural areas.

The PHEM training programme is currently 12 months long, typically undertaken during higher anaesthesia training. Further details can be found here: [www.eoedeanery.nhs.uk/medical/page.php?page_id=2906](http://www.eoedeanery.nhs.uk/medical/page.php?page_id=2906)

Specialists in PHEM have a number of possible employment roles, including working for NHS hospitals with outreach or retrieval facilities, NHS ambulance services, defence medical organisations, event medical providers and relief work charities.

**Retrieval medicine**

Retrieval medicine focuses on the stabilisation and transfer of critically ill patients either from the pre-hospital setting to the emergency department or from hospitals to specialist centres. Opportunities include working with organisations such as the Helicopter Emergency Medical Service (HEMS) or the Children’s Acute Transport Service (CATS).

The HEMS ethos is to bring the resuscitation room to the patient. Therefore, they aim to resuscitate and stabilise trauma patients on scene and transfer them safely to specialist centres. HEMS offer six-month fellowships for anaesthetists in their registrar training or for new consultants, with the opportunity to gain excellent trauma experience.

The Children’s Acute Transport Service based at Great Ormond Street Hospital is an example of one of a number of national paediatric retrieval services. They play a key role in stabilising and transferring critically ill children to intensive care facilities around the country. Six-month fellowships for anaesthetists with a background in paediatric anaesthesia wishing to broaden their experience of paediatric critical care and transfer medicine are widely available. [site.cats.nhs.uk](http://site.cats.nhs.uk)

**Events medicine**

Another possible area of pre-hospital medicine is working as a doctor at public events, such as sporting fixtures or music concerts and festivals. The case mix is variable ranging from dealing with minor trauma to managing cardio-respiratory arrests.

The rules and regulations vary depending on the type of event involved. For example, the Football Association stipulate that a ‘crowd doctor’ employed by any club must be a registered medical practitioner with either a Diploma in Immediate Medical Care or have successfully completed an appropriate Crowd Doctor Training Courses. The Royal College of Surgeons Of Edinburgh’s Faculty of Pre Hospital Care offers a number of appropriate courses:
Companies such as Events Medical Services staff major music festivals and sporting events. Such work comes with the added bonus of being paid to see some of your favourite bands or sports teams live!

More information about EMS can be found on the link below:
www.eventsmedical.co.uk

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Join the Royal Society of Medicine and save money at RSM meetings

Student Members benefit from discounted rates at over 400 meetings each year.
Meeting span 60 plus medical specialties including anaesthesia, pain medicine, critical care and emergency medicine.

Meetings include:
- Acute common care stem day
- Sedation update

To find out more and to join the RSM visit: www.rsm.ac.uk/join
**Dual training in intensive care medicine**

Intensive Care is a challenging and rewarding specialty where you have the privilege of looking after the sickest patients in the hospital, and gaining exposure to a diverse range of medical and surgical pathologies. The specialty provides the opportunity to develop skills beyond those used in anaesthesia, such as communication skills when dealing with sensitive issues and breaking bad news to relatives, procedural skills such as bronchoscopy, echocardiography and percutaneous tracheostomy, and diagnostic skills when treating critically ill patients while supporting their failing organs.

Dual training in Anaesthesia with Intensive Care is eight and a half years in total compared to seven years for single specialty training in either Anaesthesia or Intensive Care. After completing foundation year training, you can complete either a Core Anaesthetics programme (two years) or ACCS Anaesthetics programme (three years), where you will be expected to complete the Primary FRCA exam. You can then apply for separate ST3 registrar numbers in Anaesthesia and Intensive Care through competitive national recruitment. At present, you can only accept one registrar training number at a time, so you would need to apply in separate recruitment rounds at ST3 level to obtain registrar training numbers in both Anaesthesia and Intensive Care in order to dual train.

Training in Intensive Care Medicine (ICM) is led by the Faculty of Intensive Care Medicine (FICM) and involves three stages. Level one ICM training involves four years of training which must include one year of ICM, one year of Anaesthesia and one year of Medicine (including Emergency Medicine). This can include time spent in Acute and Emergency Medicine during ACCS training. Level two ICM training involves two years of training, including three-month specialty ICM placements in Neurointensive Care, Cardiothoracic Intensive Care, and Paediatric Intensive Care. Level three ICM training involves one year of higher training which can include specialist placements with particular emphasis on management, teaching or research. Dual training in Anaesthetics and ICM will include overlap in training placements, and requires careful planning between the Training Programme Directors for both specialties. You will be expected to complete exit exams in both Anaesthesia (FRCA) and ICM (FFICM) to complete dual training in both specialties.

After completing dual training, you will have the flexibility to work as a consultant in both of these stimulating and rewarding specialties.

**Useful Websites:**

- Faculty of Intensive Care Medicine
  - [www.ficm.ac.uk](http://www.ficm.ac.uk)

- Intensive Care Society
  - [www.ics.ac.uk](http://www.ics.ac.uk)

- Modernising Medical Careers
  - [www.mmc.nhs.uk](http://www.mmc.nhs.uk)

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Research in anaesthesia

Introduction

Anaesthesia is a research led specialty where innovations can rapidly change practice. Increasing levels of bureaucracy can seem daunting to potential researchers. A favourable ethical opinion using the Integrated Research Application System (IRAS) is going to be required for all research other than clinical audit. With perseverance, the rewards of research are great, including reinforcement of CVs to obtain a competitive advantage at interview. The currency of research is the publication of the findings in scientific journals, of which the British Journal of Anaesthesia is an excellent example.

Types of research

Laboratory Studies

This is an active area where several areas of interest are being investigated. Work on human tissue will often need appropriate regulatory approval. Software simulations are of sufficient fidelity to be used for research into anaesthetic practice and pharmacokinetic models.

Anaesthesia is also used extensively in animal studies. However, anaesthesia in such contexts is often used to facilitate handling rather actually performing research on anaesthesia. All research studies on anaesthetised vertebrates and some cephalopods are regulated by the Home Office and require a licence under the Scientific Procedures Act, irrespective of the qualifications of researchers.

Pharmaceuticals

Drug trials are being conducted on novel anaesthetic agents. Historically, the UK has a strong track record in this field, with propofol being a prime example. Such trials are strictly regulated and monitored by the Medicines & Healthcare products Regulatory Agency (MHRA).

Medical Devices

This is an area where research is perhaps most accessible. If the use of the device is under the normal indications for use under its CE mark, new regulatory approval is not required. A favourable ethical opinion will still be required, as will research and development sign off from the researcher’s employer.
Skills and strategies

It is very helpful to conduct research in an area that is of personal interest. A working knowledge of statistical analysis is a very useful transferrable skill. Clinical trials require access to specific patient populations. Ensure that those patients are actually available.

Engage with subject matter experts who may not be Anaesthetists. Clinical Scientists and other healthcare professionals may offer the skills and time necessary to do certain tasks that do not require an anaesthetist, such as data processing. Ensure that they are acknowledged as authors in publications.

Organisations such as the National Institute for Health and Care Excellence (NICE) maintain a database of research uncertainties that need addressing. This can be a source of ideas for projects.

Perils

Failure to gain appropriate favourable ethical opinion and sign off for research is extremely serious and a career-limiting move for a researcher and their co-workers. Scientific papers have been withdrawn retrospectively from researchers whose work is called into question.

It is a recognised risk of clinical research that it can be so interesting that it detracts from medical training. Some people have been very successful in suspending their medical training to embark on a Ph.D. However, a clear career path and financial plan needs to be in place in advance of such endeavours, not least because scientists generally earn a lot less than anaesthetists.

Clinical research may not be covered under personal professional liability cover.

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Working overseas
Anaesthetics offers varied opportunities to travel and work overseas. Here we aim to give you an insight into how and when you might incorporate a period of working abroad into your future career.

Advantages of working abroad
Aside from the adventure and excitement of travelling overseas and the prospect of much better weather...
- You can gain experience of a different healthcare system
- There is opportunity to train in a specialised field of anaesthesia at centres of excellence
- There is often the chance to undertake research and/or a higher degree at academic centres
- Short and longer term humanitarian work - this can be incredibly rewarding

When?

Medical school
Consider undertaking an overseas elective in anaesthetics - this can give you an insight into whether this is something you are interested in. You can also make contacts and return when you have more experience.

Foundation to Core training years
Currently, anaesthetics training is “uncoupled”, meaning you need to apply competitively after Foundation and Core training to attain a training post. These junctions in your career are often when doctors choose to undertake a year of overseas training.

Opportunities before you have completed any anaesthetic training may be limited, especially in developed countries, but they may be more readily available in Intensive Care Medicine.

Specialty Training years
Once you are on a higher training programme, there are still opportunities to undertake overseas work. Some of the terms you might read about are:
- Out Of Programme Experience (OOPE): this means that you are undertaking work overseas but it does not count towards your time in your training programme. This allows you flexibility to undertake something suited to you but it will delay your completion of training.
- Out of Programme Training (OOPT): this means that your overseas work is recognised as counting towards your training and therefore your completion of training date remains the same. There is more work involved in organising these placements and the well-established posts can be competitive.
- Post CCT (Certificate of Completion of Training): this is at the end of your training before taking up a substantive consultant post and often is in the form of a Fellowship to gain specialist senior anaesthetic experience.

Many consultants continue short-term humanitarian work in developing countries or undertake sabbaticals overseas.
Where?

The world is your oyster! Do you want to work in a developed country, such as Australia, New Zealand or the USA, which allow experiences of a different high-quality healthcare system with many similarities to the UK? Do you speak any other languages that would open up opportunities in other countries? Are you looking for a challenge in a developing country or the chance to make a difference with humanitarian work?

Top tips!

Be organised - if you want to undertake work overseas as part of your training, you will need to have planned meticulously and discussed your plans with your Deanery and Programme Director early.

Apply early! There is often a huge amount of paperwork to be completed so get it all in order as soon as possible.

A lot of the good jobs get filled up quickly so keep your ear to the ground about opportunities coming up at least 18 months in advance.

Keep a logbook or record of your training whilst overseas, either in paper or electronic form to prove what you have achieved during your work abroad.

Take advantage of academic opportunities overseas and remember to network - contacts around the globe can really help you later in your career!

Humanitarian and disaster relief work can teach you far more than just anaesthetics - the non-technical skills that you can acquire are invaluable to your development.

Further information

www.rcoa.ac.uk/careers-training/oope-and-oopt

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Getting involved as a student

For those of you interested in anaesthetics as a career, fortunately there are many opportunities to embark on as a student.

Theatre

All clinical students will have several surgical placements, and will have to get used to sitting through (often lengthy) theatre sessions. So why not make the most of the time by speaking to the anaesthetist! It is a wonderful opportunity to pick the brains of some of the finest doctors in the hospital, and they are usually more than happy to chat. Ask them about how they spend their week, why they chose the specialty, and even try and shadow them again in future. They may even allow you to get hands-on experience by inserting cannulas and endotracheal tubes into the patients on the list.

Life support courses

Life support courses are an essential component of training for junior doctors, and are often delivered by anaesthetists. There are a myriad of options available including Advanced Life Support, Advanced Trauma Life Support, and Advanced Paediatric Life Support to name but a few. While it may not be possible to complete these courses during medical school, course organisers often welcome students as helpers for the sessions.

Useful websites:

Advanced Life Support
www.resus.org.uk/pages/alsinfo.htm

Advanced Trauma Life Support
www.rcseng.ac.uk/courses/course-search/atls.html

Advanced Paediatric Life Support
www.alsg.org/uk/APLS

Specialist choice modules

Most medical schools will have a selected component to their degree, and you can usually choose anaesthetics for your specialist choice clinical placement. This will grant you a longer opportunity to shadow an anaesthetist or work in the anaesthetics department, and will give you an excellent insight into the working life of an anaesthetist.

Taster sessions

If you are feeling particularly keen, you can arrange for a taster session during your free time. There will be fewer students around, and the anaesthetist will appreciate your commitment! The good news is that taster sessions count for extra points during specialty training applications, so it may be a worthwhile investment.
Audits
There will always be the need to perform clinical audits, so you should never be in short supply of opportunities. Simply approach an anaesthetist and ask to help with any ongoing audits, or if there are any audits that he/she hasn’t had time to pursue. Students are often considered a helpful resource, and this may lead to the opportunity to present at a local or national level.

RSM events
The RSM offers many events each year that represent an opportunity to meet anaesthetics and other keen students, as well as learning a lot about many interesting aspects of the specialty.

Academic societies
Does your medical school have an anaesthetics society? If not, start one! Such societies provide an opportunity to forge long-term associations between interested students and hospital anaesthetics departments, as well as raising the profile of anaesthetics on medical school campuses.

So as you can see, there are many ways to act upon an interest in anaesthetics during medical school. This list is not prescriptive, but hopefully it gives you an insight into how to meet anaesthetists and find out more about a future anaesthetic career.

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- Virtual nasendoscopy for the difficult airway
- You won’t get fooled again? Lessons learned from research in anaesthesia
- The political challenges facing effective pain relief in different countries
- Perioperative cardiac arrest in theatre
- The future of pain medicine and its role in modern healthcare
- The hypoxic patient
- Sedation guidelines update

To find out more and to join the RSM visit: www.rsm.ac.uk/join