THE GAT HANDBOOK

TWELTH EDITION

2016-2017

An essential handbook for anaesthetic trainees

GAT AAGBI
GROUP OF ANAESTHETISTS IN TRAINING

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GAT Committee
Elected Member

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FOREWORD

Welcome to the 12th edition of the GAT Handbook

The aim of this Handbook is to offer a catalogue of useful information and to act as a support guide as you find your way along your training pathway to your final goal, be that life as a consultant anaesthetist/intensivist or an alternative end point. The routes available to reaching that end goal and gaining a CCT are now plentiful (core training, acute care common stem, dual training with intensive care medicine) and as such we have included sections to aid any trainee choosing any training pathway. We expect and suggest that the most useful way to use the Handbook is to dip in and out of the sections that you feel are most appropriate for you. As such we hope the comprehensive contents page will guide you to the areas you need. However, we have found all the sections very interesting during the editing phase and would encourage you to read other sections as you may find these are also very helpful and stimulate thought.

The last few years have seen some major changes in training across the medical fields including our specialty. The most significant issues being the Shape of Training Review and the political saga regarding junior doctor contract negotiations. Both of these are ongoing at the time of publication and therefore the most up-to-date information may need to be sourced from elsewhere. These issues can make life as a trainee very challenging in the current climate and we hope the chapters in this handbook can at least provide some direction and support in such challenging times.

We have sourced authors who we believe can give a balanced and accurate account of their specialist field within anaesthesia. We would like to thank all the authors who contributed to the Handbook. We hope you find the information included helpful and informative. As always, the GAT Committee positively encourage feedback and, therefore, if you have any comments please feel free to contact us (email: gat@aagbi.org). We would also like to thank Rona Gloag, Editorial Assistant, for her help in coordinating this edition.

Finally, we would like to end by wishing you all the best in your training and future careers. There will be many changes and challenges in the years ahead but we are confident you will find a career in anaesthesia a fruitful, happy and fulfilling one.

Good luck!

Anna Costello and Satinder Dalay
GAT Committee Elected Members

Every effort was made to ensure that the information in this book was accurate at the time of going to press, but articles (particularly those to do with the organisation of training) have a tendency to go out of date, so you are advised to check with the appropriate organisation for the most up-to-date information.

This has been designed as an interactive document and accessible links are highlighted in blue. Weblinks were correct as of June 2016.

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WHO'S WHO

The Association's motto *in somno securitas* encapsulates the major focus of the aagbi: safety.

WHO'S WHO

THE ASSOCIATION OF ANAESTHETISTS OF GREAT BRITAIN & IRELAND (AAGBI)

Objectives and structure

The Association of Anaesthetists of Great Britain & Ireland (AAGBI) was founded in 1932. The AAGBI adopted a new constitution in 2014. Today its objectives are:

- to advance and improve patient care and safety in the field of anaesthesia and disciplines allied to anaesthesia
- to promote and support education and research in anaesthesia, medical specialties allied to anaesthesia and science relevant to anaesthesia
- to represent, protect, support and advance the interests of its members
- to encourage and support worldwide co-operation between anaesthetists

The AAGBI pursues these objectives with vigour and enthusiasm on behalf of both anaesthetists and the general public. Current membership stands at over 11,000, which accounts for approximately 90% of anaesthetists in the UK. Trainees make up more than 3,500 of these and are represented by the Group of Anaesthetists in Training (GAT) Committee. The headquarters of the AAGBI are at 21 Portland Place, an elegant 18th century Grade II listed building on London's 'Grandest Street'. The AAGBI's Patron, HRH The Duke of York, officially opened the building in November 2003. It houses meeting rooms of various sizes, a restaurant and a museum, together with the busy administrative staff of the AAGBI.

The activities of the AAGBI are co-ordinated by the Board of Directors, which meets up to six times a year. Voting members of the Board are the Officers, elected members and also the GAT Chair and Honorary Secretary. The AAGBI Council consists of all Board members as well as a number of non-voting co-opted members (the Presidents of the UK and Irish Colleges, the Convenors of the AAGBI Scottish and Irish Standing Committees, a representative from the defence medical services, the Chairman of the SAS Committee, a BMA representative, independent AAGBI Foundation Trustees, a lay representative and the GAT Committee Vice Chair). Council provides a forum for strategic discussion of issues affecting anaesthesia, and opportunity for high level information exchange and is advisory to the Board. Council meets four times a year.

Separate from the Association, is the AAGBI Foundation which is a registered charity. The AAGBI Foundation also adopted a new constitution in 2014 and its objectives are:

- the advancement of public education in and the promotion of those branches of medical science concerned with anaesthesia, including its history
- the promotion of study and research into anaesthesia and related sciences and the publication of the results of all such study and research
- the advancement of patient care and safety in the field of anaesthesia and disciplines allied to anaesthesia in the UK, Ireland and anywhere else in the world.

The Foundation has its own Board of Trustees, some of whom are Directors of the AAGBI and some are appointed independently. The AAGBI Foundation also founded the Overseas Anaesthesia Fund (OAF) in 2006, whose projects include the book donation programme, support for anaesthesia fellows in Uganda, the SAFE obstetric anaesthesia courses and the global pulse oximetry project, Lifebox. The International Relations Committee (IRC), through charitable funding by the Foundation, considers applications for travel and project grants in developing countries. Research grants are administered through the National Institute of Academic Anaesthesia (NIAA).

Branching out from the central strategic bodies are the numerous working committees of the Association and Foundation. These include Education, Standards, Safety, Wellbeing and Support and a number of working parties tasked with producing national equipment, pharmacological and safety guidance, popularly known as the AAGBI 'glossies'. AAGBI representatives sit on the Council of the Royal College of Anaesthetists (RCoA) and other anaesthetic specialist societies, NCEPOD and NHS Committees/Groups facilitating collaboration and information dissemination. The President and Officers of the AAGBI also meet regularly with their equivalents at the Royal College of Anaesthetists, College of Anaesthetists of Ireland and the British Medical Association.

What exactly does the AAGBI do?

A large amount of the work of the AAGBI concerns education and development within the specialty. Three scientific meetings are organised each year: Annual Congress takes place each September at a venue in either the UK or Ireland. The WSM (or Winter Scientific Meeting) is the largest meeting and is held in London every January and includes a Core Topics day. The GAT Annual Scientific Meeting is held in the summer and the venue rotates around the country to provide equality of access to trainees. This is on top of the popular Core Topics days held regionally and the numerous seminars that take place at Portland Place throughout the year. All events are open to all anaesthetists, but members of the AAGBI enjoy discounted rates. GAT also holds several in-house seminars on topics relevant to trainees and those approaching consultancy.

The AAGBI has a number of working parties in progress at any one time to set standards and address pertinent concerns within the specialty. Recommendations and guidelines are normally produced as a 'glossy' publication. The 'glossies' are available on the website, or via our Apple or Android Guidelines app.

In 2008, the AAGBI, together with the RCoA, the journals *Anaesthesia* and the *British Journal of Anaesthesia*, formed the NIAA, which is now the main source of funding for anaesthetic research in the UK. The NIAA has been awarded Partnership status by the National Institute for Health Research (NIHR). This means that many studies funded by NIAA Research Council

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grants are adopted onto the NIHR portfolio and are eligible for support from the NIHR Comprehensive Local Research Networks. The AAGBI also bestows numerous grants and awards upon its members for research and travel through the Research & Grants Committee and International Relations Committee.

Anaesthesia is the monthly scientific journal of the AAGBI and is circulated to all members. With *Anaesthesia* comes *Anaesthesia News*, the newsletter of the Association. It aims to keep members up to date with specialty news as well as taking a more light-hearted look at our specialty. As of 2013, the AAGBI has launched an online resource – Anaesthesia *Cases* – to allow anaesthetists to upload interesting case reports and to share their knowledge and experiences.

Why do we have a College and an Association?

The AAGBI was responsible for introducing the Diploma of Anaesthesia and the Faculty of Anaesthetists to the Royal College of Surgeons in 1948. This ultimately led to the formation of a separate College of Anaesthetists, which received its Royal Charter in 1992. The AAGBI and the RCoA have many objectives in common. However, the AAGBI can act in areas in which the RCoA cannot, for instance, in matters affecting the terms and conditions of service and in representing the interests of anaesthetists. Both bodies share the setting and maintenance of standards, the promotion of education and, more recently, areas such as the development of guidance on the European Working Time Regulations. Collaboration is, and needs to be, close on many issues. However, the RCoA, with its Royal Charter and Ordinances, is bound by statute to protect the public. It also has other statutory duties such as setting the Fellowship exams, advisory appointments committees and duties to its fellows. The functions of the RCoA are therefore constrained by these statutes. The AAGBI, while sharing similar objectives, can act more obviously for the benefit of anaesthetists. Fortunately, for us all, the RCoA and the AAGBI work closely and in harmony.

Why join the AAGBI?

The membership fees are extremely good value, particularly for trainees and offer a wide range of membership benefits.

To join, contact the AAGBI membership department: Tel: 020 7631 8801; Email: members@aagbi.org

Acknowledgement
I would like to acknowledge Chris Meadows (GAT Committee Chair 2007–2009) for authoring the original version of this chapter and Richard Paul (GAT Committee Chair 2013–2014) for his work on the last revision.

Andrew Hartle
AAGBI President
Consultant in Anaesthesia & Intensive Care, Imperial College Healthcare NHS Trust, St Mary's Hospital

THE GROUP OF ANAESTHETISTS IN TRAINING

I joined the Group of Anaesthetists in Training (GAT) Committee after passing my final exam. It was partly an attempt to fill the void that the exam had left behind. The other, more romantic, reason was from an inner nag. I had never been a committee kind of person but was getting a little irritated by coffee room discussions about the problems facing our profession and the NHS. These conversations would generate lots of opinions and (some) sensible solutions but no real way of taking those ideas further. I saw an email from the AAGBI calling for nominations to the committee and I thought, why not?

Background of the GAT Committee

The GAT Committee is a democratically elected body that exists to represent trainees in anaesthesia at a national and international level. It exists under the auspices of the AAGBI and represents the views and perspectives of over 3,500 anaesthetic trainees, accounting for over 70% of anaesthesia trainees within the UK, and approximately one third of the AAGBI membership.

History

1956
- Trainees first permitted to become associate members of the AAGBI

1967
- Associates in Training Group (ATG) established under the Presidency of Dr Pinkerton

1970
- ATG changed to Junior Anaesthesia Group (JAG)
- Two members of JAG were admitted to Council with full voting rights

1992
- JAG became GAT

Today

Today the GAT Committee is made up of 13 elected members and four co-opted members from other affiliated organisations. We maintain a firm presence on many other national bodies, such as the RCoA Trainee Committee and the BMA Junior Doctors Committee, and have links with bodies in Europe, Canada, Australia and New Zealand.

GAT has established several networks of trainee links across the country to improve information gathering and dissemination. After raising training and political issues with the relevant organisations, we feed information back to our membership via the many avenues available to us:

- Trainee Network Leads
- Less than full-time trainee network
- The @AAGBI e-newsletter
- Social media, including Twitter and Facebook
- The AAGBI website
- *Anaesthesia News*

Representation

In the summer of 2014 we sent a letter to the Secretary of State for Health, Jeremy Hunt, regarding the report into the Working Time Regulations, which he had commissioned. In our letter we outlined a number of concerns with the report, especially the 'encouragement' of trainees to opt out the working time directive and the proposal to separate training from service. Our letter was positively received by the BMA.

Over the last few years the Shape of Training (SHoT) has moved from being a concept that appeared to be an idea hastily proposed, to one which has been embraced by several organisations. The GAT Committee has actively followed its evolution. We have submitted evidence to the SHoT steering group, attended many stakeholder events and worked alongside both the RCoA and the Academy of Medical Royal Colleges. We have recently submitted evidence to the GMC regarding two consultation exercises and have been discussing SHoT with the BMA Multi-Speciality Working Group.

At the time of writing, GAT has been diverting most of its attention

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to the junior doctors contract negotiations. We have attempted to represent our members during this period and ensure that information is disseminated swiftly. As soon as the Government announced it was imposing a contract on junior doctors, GAT published a statement countersigned by eight other training groups (representing over 9,000 trainees) that questioned the logic behind this decision. As the fight raged on and many of you became upset, and even more became disillusioned, we co-wrote a wellbeing statement with the RCoA and Faculty of Intensive Care that pointed to useful resources during that stressful time.

GAT committee members are key stakeholders on various AAGBI committees and both the GAT Chair and Honorary Secretary are on the AAGBI Board of Directors and are Trustees of the AAGBI Foundation. Our opinions are always valued and carry a lot of weight with the board members. The GAT committee were key contributors to the National Essential Drug List and have been authors on several AAGBI Safety Guidelines and National Audit Projects.

Education

Through close work with the AAGBI Education Committee and Events team, GAT has refined the GAT Annual Scientific Meeting (ASM). It is now recognised for its scientific content with parallel streams catering for primary, final and post exam trainees. We continue to attract high calibre oral and poster presentations, which are judged by the GAT committee and AAGBI Board. With the help of Dr Nancy Redfern (AAGBI Honorary Membership Secretary) we have introduced mentoring sessions at the ASM. These sessions continue to be oversubscribed each year and have prompted many trainees to undertake training in how to become a mentor. Within the last few years, GAT has organised consultant interview seminars and developed the AAGBI Management and Leadership Course.

Innovation

Trainees tend to be the creators and early adopters of revolutionary ideas. We were the first in the world to introduce the Parent and Baby Room at the ASM. This facility is now highly regarded, and has been embraced by other meetings such at the AAGBI Winter Scientific Meeting. In 2015 we organised and chaired the Innovation session at the AAGBI Annual Congress in Edinburgh with topics including how to develop an app and medical device patenting. We constantly reflect on how we function as a committee and have invested time in developing skills such as leadership and followership. We recently achieved recognition with the RCoA for Advanced Training in Management, which allows activity we undertake on the GAT Committee to contribute to the RCoA Leadership and Management module, and anticipate that this type of innovation will see committee members becoming future healthcare leaders of tomorrow.

We want you!

Many people become frustrated when they see problems that they have no way of influencing. This is much like the frustration I was experiencing during my coffee breaks; the problems were outside of my circle of influence. By joining a committee and finding your voice you can slowly increase your circle. It can be busy but it is good fun. If you are passionate about your profession and have opinions you wish to share I would encourage you to join us – elections normally take place in May each year.

Ben Fox
GAT Committee Chair

TRAINEE NETWORK LEADS

What is the Trainee Network Lead Scheme?

In 2012 GAT started an initiative aimed at improving the communication between trainees at regional level and the committee itself. The goal was to allow easy, rapid dissemination of information related to GAT and the AAGBI, and to allow a two-way dialogue to facilitate discussion around concerns, opportunities and local programmes that might be applicable to all. Trainee Network Leads (TNLs) are motivated trainees within each school of anaesthesia across the UK and Ireland that act as a continual point of contact and communication within the network. GAT now has at least one TNL in all regions, and have gathered and acted upon vital information sent to us, from major national training and contract issues to regional avant-garde educational and welfare initiatives. Despite increasing pressures on time and training, there is a formidable volume of hard work going on at local and national level by enthusiastic anaesthetic trainees and trainers. We hope the GAT Trainee Network Lead Scheme can grow and evolve to continue supporting this.

What are the roles of a TNL?

We would expect a TNL to be an enthusiastic trainee at any stage of training, keen to be actively involved and quick to respond to queries from GAT. The post is held for a minimum of 12 months, and includes a number of varied and stimulating responsibilities that, as well as improving personal and professional development in areas such as leadership and management, will make for engaging discussion at an Annual Review of Competency Progression. It is a pleasure to see that several past TNLs have subsequently run for and successfully become democratically elected members of the GAT Committee.

Formal TNL responsibilities include:

- To help raise the profile and encourage membership of the AAGBI and GAT, by ensuring local trainees are aware of the multitude of services and support that are available
- To disseminate information from the GAT Committee and the AAGBI, including regular e-newsletters and 'hot' or political topics of note
- To advertise and encourage trainee attendance and participation at the annual GAT ASM
- To discuss via email, local forums or regional trainee groups any issues that arise within your region, and feedback concerns to GAT for consideration and action at a national level
- To keep GAT informed of local ideas, progress and examples of excellence that are to be applauded and might be of benefit to trainees elsewhere in the UK and Ireland
- To aim to attend the annual GAT ASM and the Linkman Conference at AAGBI Annual Congress, where TNL meetings are held to meet the GAT Committee and to allow networking and discussion to occur
- To complete and return an annual feedback and information form
- To ensure the role of TNL is self-sustaining by establishing the next regional TNL prior to stepping down

Of note, GAT does not have specific funding for the Trainee Network Lead Scheme and for the work performed by the TNLs. GAT hugely appreciates the work undertaken by the TNLs and ensures that they have a formal letter on behalf of the AAGBI and GAT annually (and/or upon stepping down), which can be used as portfolio evidence. In addition, as a TNL you may be given the opportunity to attend meetings on behalf of GAT and to be involved in AAGBI/GAT-related initiatives such as working parties, audit and research, and we would encourage TNLs to take these up when offered.

How do I contact or become a TNL?

The AAGBI website has an area dedicated to TNLs where you can find out who represents your region. If your region does not have a TNL, you would like to help us to establish one, you would like to contact your TNL, or you have any other enquiries and suggestions, please email gat@aagbi.org. Each region decides how they will handover or identify their TNL, be that by ballot, volunteer or nomination. Note that some areas have more than one TNL, particularly if their school of anaesthesia is large or disparate in geography. One size does not fit all, and the scheme remains flexible and under regular review to allow for this.

Rowena Clark
GAT Committee Vice Chair and Trainee Network Lead Officer

THE ROYAL COLLEGE OF ANAESTHETISTS

The Royal College of Anaesthetists (RCoA) is the professional body responsible for the specialty of anaesthesia throughout the UK. Its principal responsibility is to ensure the quality of patient care through the maintenance of standards in anaesthesia, pain medicine and intensive care. The College's activities as laid down by its Royal Charter include:

- Setting standards of clinical care
- Establishing standards for the training of anaesthetists and those practising critical care and pain medicine (in conjunction with the GMC)
- Setting and running examinations
- Continued medical education of all practising anaesthetists

Organisation

The RCoA comprises an elected Council of practising anaesthetists. The Council elects the President and two Vice Presidents from their members. College Council is represented on a series of Committees and Working Parties and they consider particular areas of work.

The College Council

There are 24 elected members of Council including the President and two Vice Presidents. They include:

- Twenty consultant members who have been Fellows for more than four years: elected for a six year term of office, can be re-elected for a further four years.
- Two staff and associate specialist members: elected for four years; can be re-elected for a further four years.

Two trainee members within four years of gaining the fellowship elected from the Anaesthesia Trainee Representative Group (ATRG).

The RCoA is a registered charity and the 24 elected members of Council are the governing Trustees.

In addition, there are six co-opted members representing the interests of other organisations including the Faculty of Pain Medicine, RCoA Advisory Boards for the devolved nations, the AAGBI, the RCoA Lay Committee and Clinical Directors.

The College Council meet on a monthly basis for discussion of policy and professional issues that may require extensive consideration, formal and ceremonial matters, granting of diplomas, and the passing of resolutions for which the formal authority of Council is required.

Internal and external committees

The Council also receives reports from approximately 30 committees that meet on a less frequent basis. These committees are responsible for considering College-related issues in more detail and making recommendations to Council for decisions to be made. Specific committees include Training, Examinations, Education (which co-ordinates the programme of seminars and conferences organised by the College), Professional Standards, the Safe Anaesthesia Liaison Group and the Workforce Planning Strategy Group. Trainee members of Council or representatives from the Trainee Committee sit on all committees concerning the interests of trainees.

The RCoA is also represented on a large number of external committees including the AAGBI Council, the GAT Committee, Academy of Medical Royal Colleges and the Faculties of Intensive Care and Pain Medicine. In addition, the College is asked to contribute to various working groups and publications and consultations from the wider healthcare community such as the GMC, NICE, Department of Health, and the National Confidential Enquiry into Patient Outcome and Deaths.

College staff and volunteers

The administrative functions of the College are undertaken by approximately 80 permanent members of staff organised into operational directorates:

- Training and Examinations
- Education and Research
- Clinical Quality
- Communications
- Finance
- Facilities
- IT

In addition to the valued work of these employed staff members, the College is only able to administer its numerous duties due to the significant contribution of a large number of volunteers. The Fellowship of the Royal College of Anaesthetists (FRCA) examination could not run without the dedication of the volunteer examiners. Ensuring the delivery of high quality training is the responsibility of over 300 College Tutors and 50 Regional Advisers. College Assessors advise on consultant appointment committees and undertake peer review for clinical standards accreditation.

The curriculum and examinations

The College is responsible for writing the curriculum for training of anaesthetists in the UK. The current curriculum was approved by the GMC in 2010 and undergoes minor revisions annually. The Training Committee oversees all aspects of training, from revising the Certificate of Completion of Training (CCT) to making recommendations to the GMC for the award of a CCT.

To become a Fellow of the RCoA by examination you must pass the Primary and the Final examinations. The examinations are set and supervised by the RCoA through a Board of Examiners who are senior consultants and experts in their fields. The College is committed to maintaining the highest possible standards for its examinations. In order to maintain this position, the FRCA examiners and the Examinations Department rigorously quality assure all processes and actively engage in research and ongoing development work to ensure the pre-eminence of the FRCA.

e-Portfolio

Training in anaesthesia requires the maintenance of an electronic portfolio, which is administered from the RCoA's Training Department. There is a dedicated e-Portfolio Training and Support Team based at the College to answer queries and offer help. Support is staffed Monday to Friday from 9.00 am–5.00 pm (excluding public holidays). Tel: 0207 092 1556 or email: e-Portfolio@rcoa.ac.uk. More details regarding the e-Portfolio are available in the e-Portfolio chapter.

E-Learning Anaesthesia (e-LA)

e-LA is an interactive and engaging web-based learning resource developed by the RCoA in partnership with e-Learning for Healthcare (e-LfH).

Written and edited by anaesthetists, e-LA covers the knowledge and key concepts that underpin the anaesthetic curriculum and will help trainees prepare for the FRCA examination. The learning material is presented as a structured series of bite-sized lessons and includes access to an extensive e-Library, a self-assessment area and e-CPD to support continued professional development in anaesthesia.

Novice guide

The RCoA has produced an interactive *Guide for Novice Trainees* to support their first 3–6 months on the training programme.

The guide was originally produced in August 2013, is available online and is supplied on a USB drive to trainees on registration with the College.

The guide contains key documents and a step-by-step approach to help trainees get started on the training programme. It also contains Module 1 from e-LA, specifically written for novice trainees as an introduction to anaesthesia, to support the first three months on the training programme. There are additional learning resources and guidelines available from the AAGBI, the Resuscitation Council and the Difficulty Airway Society.

Trainee representation within the RCoA

Elected trainee representatives from each School of Anaesthesia, together with co-opted members from the Faculties of Intensive Care and Pain Medicine, make up the ATRG. This group meets annually at the RCoA and provides a geographically representative body to provide input into all areas of College activity. From this group, a Trainee Committee and the two trainee members of Council are elected.

The role of the College's Trainee Committee is to:

- Represent trainee opinion to the College Council
- Enhance and maintain dissemination of relevant information to trainees
- Contribute to the RCoA *Bulletin* and the editing of *The Gas* newsletter
- When requested by Council, provide representation on Council sub-committees and working parties either from the Trainee Committee or the ATRG
- Provide anaesthetic trainee representation on various external committees as requested, including the Academy Trainee Doctors Group (ATDG) and GAT
- Actively participate in the professional development of trainee anaesthetists

The Trainee Committee is always happy to hear from colleagues at all stages of training: trainee@rcoa.ac.uk

JP Lomas
RCoA Council Member

THE GENERAL MEDICAL COUNCIL

The General Medical Council (GMC) is the independent regulator of the medical profession in the UK. Doctors must be registered with the GMC and have a licence to practise to be able to practise medicine in the UK. The medical register is available for anyone to search on the GMC website.

Good medical practice

The GMC set the standards for good medical practice. The core guidance is *Good medical practice*, which sets out the principles and values that doctors should follow in their work. More detailed explanatory guidance covers issues as diverse as end of life care, obtaining consent from children and doctors' use of social media. All the guidance, and a range of learning tools including interactive case studies, is available on the GMC website.

The GMC's *Raising and acting on concerns about patient safety* guidance gives advice on raising a concern if a patient might be at risk of serious harm, and on the help and support available to doctors. There is an online tool to help make decisions about raising concerns and the GMC runs a confidential helpline (0161 923 6399, open Monday-Friday, 9.00 am–5.00 pm), staffed by specially trained advisers, for doctors to raise concerns.

Revalidation

Revalidation was launched by the GMC at the end of 2012. This aims to ensure doctors are regularly appraised against the GMC standards and ensures they are keeping their knowledge and skills up to date. More about revalidation, including specific questions and answers for doctors in training, is available on the website.

Standards for education and training

The GMC sets the standards for medical education and training and ensures that these standards are being met. These standards, *Promoting excellence: standards for medical education and training*, were updated in July 2015; effective from 1 January 2016. This single set of standards for all stages of medical education and training put patient safety, quality of care, and fairness at the heart of the teaching and training of medical students and doctors in training.

An important means of the GMC ensuring training standards are being met is through its national training surveys. All doctors in training are required to complete this survey annually.

Fitness to practise

In the event that a doctor is not meeting the professional standards the GMC sets, the regulator has strong legal powers to restrict or prevent them from practising medicine in the UK. More about how this occurs is available via the website.

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THE BRITISH MEDICAL ASSOCIATION

The British Medical Association (BMA) is an independent trade union and professional body, representing over two-thirds of UK practising doctors. It is officially recognised by the Government and the Review Body on Doctors' and Dentists' Remuneration (DDRB) as the only organisation representing all NHS doctors employed under national agreements. The BMA has responsibility for negotiation of pay and other conditions of service and, as such, is ideally placed to understand doctors' day-to-day working lives and challenges.

The BMA negotiates and maintains terms and conditions of service for doctors not only nationally, but also at a local level. Advice and support to individual members for a wide range of workplace issues is provided. The BMA is heavily involved in protecting junior doctors' rights and improving their working lives through a range of initiatives such as providing a contract checking service, rota and banding advice, and information regarding relocation and travel expenses. The BMA also provides support on a much more personal level through a dedicated counselling service.

To join the BMA, visit our website. BMA membership is tax deductible (as are other professional memberships such as the AAGBI and the RCoA), and can be claimed for using the tax claim form in the members' section of the website.

Employment support

If you are a BMA member with an employment query (for example, questions about contracts, pay, or rotas) then contact the BMA on 0300 123 1233 between 8.30 am and 6.00 pm, Monday to Friday, excluding bank holidays, to speak to an adviser. They will endeavour to deal with your query on first contact but if necessary will assign a member of staff in the appropriate BMA office to help. You can also email an adviser once you have logged into the BMA site or contact them through live chat via the website.

Information services

Membership includes access to a wide range of information, including the weekly *BMJ* and BMA newsletter. For access to current and archived articles go to the *BMJ* website.

The BMA library provides free access to over 1,300 e-books and more than 300 e-journals, and full access to the Medline database. Books and DVDs can be requested through a postal loans service. The library, based at BMA House in Tavistock Square, London, also provides computer access; scanning, printing and photocopying facilities, and Wi-Fi. For further information email bma-library@bma.org.uk

Career development

There are a range of services to support lifelong learning and professional development available through the BMA. The BMA Careers Service provides guidance and a wide range of continuing professional development (CPD) approved workshops and e-learning modules.

Ethical advice

The BMA ethics department offers comprehensive advice on an extensive variety of topics including consent, confidentiality and working with children. Free online access to *Medical Ethics Today*, the BMA's handbook on legal and ethical issues encountered in clinical practice, is also available to members.

Getting involved

Local representation

The BMA aims to accredit at least one junior doctor per employer as a BMA representative to represent colleagues at local level, and to help solve basic work-related problems for its members.

The role involves providing advice (e.g. on pay, monitoring, accommodation standards and travel expenses) and attending local negotiating committee meetings, where both doctors and managers meet to discuss local issues and negotiate any variations from the nationally agreed contract. A BMA industrial relations officer will also be a member of the local negotiating committee.

Full training and access to several guides for representatives are provided, as well as guidance on who to contact for further information. Training can be either in-house or arranged on an away-day basis, with time off granted from work under trade union legislation and all costs paid for by the BMA. This time off is separate from your allocation of study leave.

Regional representation

The regional Junior Doctors Committees (JDCs) represent junior doctors at a regional level, with boundaries roughly aligned to Local Education and Training Boards (LETBs), previously known as Deaneries. The committees meet four times a year and all junior doctors living or working in the region are welcome, whether they are BMA members or not. These meetings are an opportunity to ask for advice, give your views to the BMA and receive updates on local and national issues. See the BMA website for details of your regional JDC.

National representation

The UK JDC, comprised of juniors elected through various routes including regional JDCs, represents all junior hospital doctors in the UK. It has sole negotiating rights with the government for all doctors in training employed in the NHS. If you wish to attend a UK JDC meeting (held at BMA House in London) as a visitor, or simply want to know more about the work of the committee, then email info.jdc@bma.org.uk

Contacting the BMA

The BMA website contains a vast amount of information and is an invaluable resource. If you cannot find what you are looking for or require further help and support on an employment issue then call 0300 123 1233 and speak to an adviser. If you are struggling either at work or at home, the BMA provides a confidential telephone counselling service – available 24 hours a day, 7 days a week – and a doctor adviser service where you can speak to another doctor in confidence. The service can be accessed by calling 08459 200 169. For doctors under investigation by the GMC, there is the BMA Doctor Support Service, offering confidential emotional support.

The BMA maintains an active presence on social media via Facebook, Twitter and YouTube and membership provides access to the online BMA Communities, making it easy for you to get involved, express your views, and keep up to date with the local, regional and national changes to life in the medical profession.

Heidi Mounsey
BMA JDC representative

THE TRAINING YEARS

"Put simply 'good enough' is not good enough. Rather, in the interests of the health and wealth of the nation, we should aspire to excellence."

Professor Sir John Tooke, *Aspiring To Excellence*

THE TRAINING YEARS

ANAESTHETIC TRAINING, COMPETENCIES AND ASSESSMENTS

Training

The current curriculum for a CCT in Anaesthetics was introduced in 2010 and aims to produce 'well-trained, high quality clinicians, with the broad range of clinical leadership and management skills and professional attitudes necessary to meet the diverse needs of the modern National Health Service [NHS] and who can embark upon safe, independent practice as consultant anaesthetists in the United Kingdom [UK]'.

This current anaesthetic training programme as overseen by the RCoA is described as 'a competency-based, supervised, continuously evaluated and tightly regulated programme, with the potential for tailoring to suit individual requirements and interests'.

A typical training period in anaesthetics lasts seven years, made up of the following four phases:

- Basic level training – two years (CT1 and 2) or three years if Acute Care Common Stem (ACCS)
    - Primary FRCA gained before progressing to ST3
- Intermediate level training (ST3 and 4) – two years
    - Final FRCA gained before progressing to ST5
- Higher and advanced level training (ST 5–7) – three years

The actual duration of training is not fixed, but will depend on individual needs and the rate at which competencies are achieved.

The objectives of training are grouped into four stages of learning (basic, intermediate, higher and advanced) and, within these, they are organised by surgical subspecialty or anaesthetic focus. In addition, there is a group of general outcomes that is listed separately as 'professionalism and common competencies in medical practice'.

Training concepts: competency, spiral, broad-based, flexible and experimental learning

The RCoA defines competence as 'possession of the knowledge, skills and attitudes required to undertake safe clinical practice at a level commensurate with stated objectives'. The training scheme is designed to ensure trainees become competent in each area before progressing rather than moving on simply due to the passage of time.

The current curriculum is built around spiral learning where trainees return to anaesthetic subspecialties a number of times over the training years, allowing them to gradually build on their basic knowledge. Flexibility is maintained so that the needs of anaesthetic trainees who choose not to specialise until their later years of training can be catered for; this will also allow the specialty to respond rapidly to the changing face of medicine. Finally, practical skills are learnt through 'hands-on' training, with not all trainees being expected to acquire the same advanced skills. For this reason, advanced and higher competencies have evolved.

Common competencies of medical practice required of all doctors

Aside from the clinical training, the trainee must also develop general professional knowledge, skills, attitudes and behaviours required of all doctors. Twelve domains have been identified by the RCoA covering professionalism and common competencies. These are as follows:

- Professional attitudes and behaviours
- Clinical practice
- Team working
- Leadership
- Innovation
- Management
- Education
- Safety in clinical practice
- Medical ethics and confidentiality
- Relationships with patients
- Legal framework for practice
- Information technology

The anaesthetic training programme

Foundation Years 1 and 2
Many doctors will pass through anaesthetic departments for a few months as part of their foundation training (FT) programme, but their numbers are limited. Some of them may return to anaesthesia in the future having achieved valuable competencies during time spent in other specialties.

Important milestones in the anaesthetic training programme

- Initial assessment of competence (within first six months)
- Initial assessment of competence in obstetric anaesthesia (within first two years)
- Primary FRCA examination (normally acquired during CT1 and 2. Required for progression to ST3)
- Basic level training certificate (end of CT)
- Final FRCA examination (during ST years 3 and 4. Required for progression to ST5)
- Intermediate level training certificate (end of ST year 4);
- Higher essential units of training (during ST5–7)
- Advanced special interest units of training relevant to ultimate area of practice (during ST6–7)

A separate career pathway for those wishing to become academic anaesthetists is discussed below.

Basic level training

Core Training Years 1 and 2 or ACCS years CT1, CT2a and CT2b

The detailed explanation of the competencies required to complete basic level training and how they are assessed are found in Annex B of the CCT in Anaesthetics which can be found at www.rcoa.ac.uk

There are two pathways into anaesthetic training, either as a Core Anaesthetic Trainee or via the Acute Care Common Stem (ACCS). If entering anaesthetics via the ACCS route, basic training will be extended by a year to allow time to be spent in emergency medicine and acute general medicine.

Basic Level Anaesthetic Training is divided into two parts:

- The basis of anaesthetic practice (normally 3–6 months)
- Basic anaesthesia (including three months of intensive care medicine (ICM)) which is normally 18–21 months

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The initial training of novice anaesthetists is an introduction to the principles and practice of safe anaesthetic care and consists of the following units:

- Pre-operative assessment including history taking, clinical examination and specific anaesthetic evaluation
- Premedication
- Induction of general anaesthesia
- Intra-operative care
- Postoperative and recovery room care
- Management of respiratory and cardiac arrest
- Control of infection
- Introduction to anaesthesia for emergency surgery

Trainees are expected to have achieved these clinical learning outcomes and obtained the Initial Assessment of Competence (IACC) before progressing to the remainder of basic level training. This initial training will take between 3–6 months for most trainees and the IACC must be obtained prior to trainees undertaking anaesthetic activity without direct supervision. This usually occurs about three months into the training scheme, although the RCoA are keen to stress that the emphasis, particularly during basic level training, is on competence not on time. ACCS trainees from parent specialties other than anaesthesia are expected to complete the basis of anaesthesia practice and gain their IACC. Trainees arriving in the UK having worked elsewhere will also be obliged to pass this assessment before undertaking any solo work or participating in an on-call rota.

Basic anaesthesia training will normally last 18–21 months and provides an introduction to all aspects of elective and emergency anaesthetic practice as well as intensive care medicine. Completion of RCoA workplace-based assessments (WPBAs), passing the Primary FRCA exam and demonstration of acceptable attitudes are required to gain the Basic Level Training Certificate (BLTC), usually at the end of the second year of anaesthetic training.

Intermediate level training

The detailed explanation of the competencies required to complete basic level training and how they are assessed are found in Annex C of the CCT in Anaesthetics which can be found at www.rcoa.ac.uk

ST Years 3 and 4

This period of training will normally last 24 months and is based on the principle of 'spiral learning'. Trainees are required to gain intermediate level competencies in all the units of training undertaken in basic level training, as well as in important new and often complex areas of clinical practice, e.g. anaesthesia for cardiac and neuro surgery. Intermediate competencies have been subdivided into seven 'essential' units and three 'optional' units. At the end of ST Year 4, trainees will receive an Intermediate Level Training Certificate (ILTC) if they have successfully passed the Final FRCA, continued to demonstrate acceptable attitudes and behaviour, and passed all the required WPBAs. Some local flexibility may be required in order for trainees to gain adequate exposure (usually 1–3 month blocks) to the essential units; training across anaesthetic schools or deferment of specific named units may be considered.

Higher and advanced level training

ST Years 5, 6 and 7

The detailed explanation of the competencies required to complete higher and advanced level training and how they are assessed are found in Annex D and E respectively of the CCT in Anaesthetics which can be found at www.rcoa.ac.uk

After acquisition of the ILTC, the primary aim is 'to produce trainees competent for independent professional practice in their chosen consultant career path'. The RCoA highlights that training opportunities should be balanced with anticipated career vacancies. All trainees must undertake a generalist pattern of training within a broad and balanced programme, but this stage is designed to be more flexible and tailored than basic and intermediate level training programmes. In order to attain consultant status, every trainee must complete the full higher and advanced programme of training and have undertaken a total of at least nine months of ICM (see above). Higher and advanced training would together normally take three years and can be completed in a flexible sequence. At least two of these three years must be spent in approved training or research posts within the UK. Up to one year may be spent either outside the UK in a prospectively approved post, and/or in dedicated work in a single specialty area. Only one year of full-time research can count towards a CCT.

Higher level ('post-fellowship') training lasts for two years, at least one year of which should be spent undertaking general duties. In this year, at least eight of the 13 general units of training must be completed, including two mandatory units (airway management and management of respiratory arrest).

Advanced level training lasts for one year and may involve further training in either general or specialist (e.g. paediatric, cardiothoracic, neuro) anaesthesia. Advanced training in general anaesthesia may involve several units or focus on one. The trainee should aim to gain expertise in both clinical and professional competencies.

An example of a clinical programme may consist of:

- Higher training programme – thee month blocks in a combination of general duties and specialist duties (paediatric, neuro and cardiac anaesthesia). This will be based on the clinical work available in each department
- Advanced training programme – a 6–12 month block in one of the key unit of training areas. These are aimed at individuals who wish to work as consultants with a significant subspecialty clinical commitment

In order to achieve a CCT it is necessary to complete all training in an approved training programme, be registered as a trainee with the RCoA and complete the minimum training to a satisfactory standard.

Academic training

There are a number of different routes into academic anaesthesia.

The National Institute for Health Research Pathway

A clear, integrated academic training pathway has been developed by the National Institute for Health Research (NIHR). Trainees now have the opportunity to choose an academic training pathway from foundation training – much earlier than was traditional.

Academic training posts are available at three stages in training:
- Foundation level, which may involve time within academic anaesthesia departments
- Academic Clinical Fellowships (ACFs)
- Clinical Lecturers (CLs)

Trainees are appointed to an academic National Training Number (NTN(A)) (rather than the usual National Training Number (NTN)) jointly by the United Kingdom Research Collaboration (UKCRC) together with LETBs, universities and Trusts.

Academic Clinical Fellowships offer a 2–3 year contract with 25% of time allocated to academic work with the remaining 75%

being clinical training. The aim is that during this time ACFs will gain funding to support further research years towards gaining a PhD or MD(Res).

Clinical Lectureships are available following the acquisition of a PhD or MD(Res) and offer contracts of a maximum of four years, with 50% of time being academic and 50% as clinical training. The aim is that trainees will be able to complete both post-doctoral research training as well as completing clinical training and obtaining a CCT.

Alternative routes to an academic career

In addition to the NIHR pathway, a number of opportunities exist to demonstrate and fulfil an interest in research. The National Institute for Academic Anaesthesia (NIAA) was established in 2008 and has a database of clinical academics who are happy to be contacted if you would like to discuss options. The NIAA's Health Services Research Centre offers fellowships every year, which can be one year or up to three or four years if you want to undertake an MD(Res) (usually two years) or PhD (usually three years). Some of these posts can be part-funded by hospital trusts if undertaking some part-time clinical work in the NHS or in private sector intensive care units.

The RCoA is very supportive of academic training but stresses that all the usual competencies are still required to gain the CCT. It is recognised that academic trainees may have a more limited time period than usual to complete the clinical training scheme and flexibility and personalisation of training blocks is encouraged including consideration of more training time being offered if this is felt appropriate. Academic tutors and heads of academic departments fulfil the supportive roles that college tutors and regional advisors perform in the traditional training pathway. If you are interested in an academic career, the most important first step is to find a good mentor and supervisor. The NIAA website can help you to do this, as can your local training programme director (TPD) or university academic department.

For those interested in research, but only wanting to dip their toe in the water...

The Research and Audit Federation of Trainees (RAFT) has been established as an over-arching organisation to support the work of individual regionally-based trainee research and quality improvement (QI) networks. RAFT and the trainee networks exist to support trainees who want to get involved in some high quality research, audit and QI work, but do not want to make research their main focus or take time out of training to pursue academic ambitions. The RAFT and NIAA websites have lots of useful information for those who would like to find out more. If you would like any further details about research opportunities, please contact the NIAA administrator through the website.

How do you know if you are competent?

Anaesthetic training requires a robust and validated assessment programme. Knowledge and decision-making skills can be assessed via the Primary and Final FRCA exams. Trainee knowledge is also tested using WPBAs and simulation. The RCoA has developed a set of WPBAs which are blueprinted against the curriculum. Every learning outcome in the curriculum is matched to at least one possible assessment.

The anaesthetic WPBA tools used are:

- Anaesthetic Clinical Evaluation Exercise (A-CEX)
- Anaesthetic List/Clinic/Ward Management Assessment Tool (ALMAT)
- Acute Care Assessment Tool for ICM (ICM-ACAT)
- Direct Observation of Procedural Skills (DOPS)
- Case-Based Discussion (CBD)
- Multisource Feedback (MSF)
- Clinical Supervisors end of unit Assessment Form (CSAF)

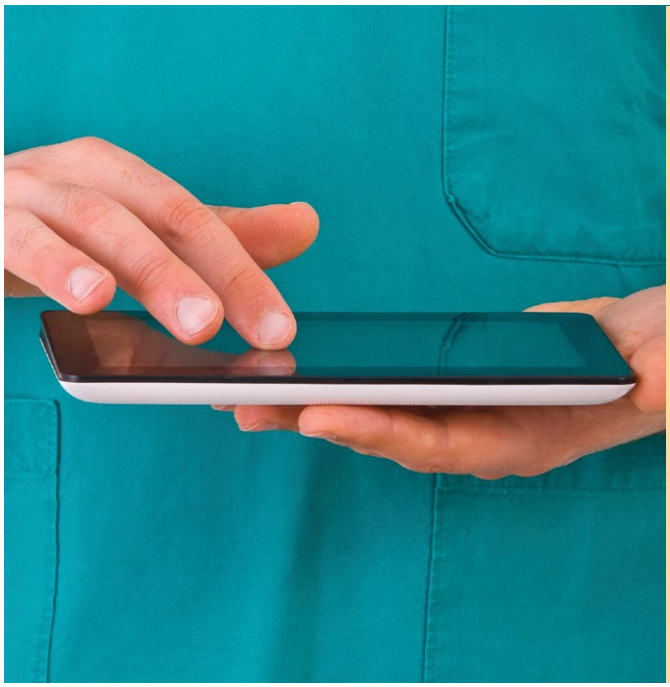
Skills, attitudes and behaviour are assessed using the above tools and documentation and an up-to-date electronic logbook must also be maintained. All of these are used during appraisal and the ARCP (Annual Review of Competence Progression) to formulate a decision about whether each trainee can progress safely to the next year of anaesthetic training.

Avoiding the main pitfalls

Documentation is of central importance to making competency-based training work, and this cannot be overemphasised. Good organisation and awareness of what is required will make a potential headache much easier to deal with. It is better to ensure that all paperwork is up to date and complete before leaving a post, as chasing people (and paper) once you have moved on can be difficult. Incomplete paperwork may result in delays in completion of your training. This advice is particularly pertinent to trainees who transfer between LETBs and consequently, have assessments from more than one region, and also to LTFT trainees or those following an academic interest, for whom calculating training time and a subsequent CCT date accurately can be more difficult. Trainees in Locum Appointment for Training (LAT) or Fixed Term Specialist Training Appointment (FTSTA) posts will also need to ensure that all WPBAs are correct and complete for their time in post to be taken into consideration towards a CCT. Accurate electronic logbook data are extremely important in these days of reduced case exposure, so that any gaps in training can be highlighted and resolved promptly. In the current climate an up-to-date portfolio containing evidence of education and training (e.g. courses attended, presentations given) is essential and will impress upon your trainers that you are well organised and motivated.

e-Portfolio

The e-Portfolio is aimed at making the ARCP process more efficient and was designed to enable trainees to keep all necessary documentation online. It also allows educational supervisors, college tutors and regional advisors to monitor each trainee's progress remotely. The College's e-Portfolio support team are very helpful and reply promptly to queries (e-Portfolio@rcoa.ac.uk). All consultants in training hospitals should be registered with the College and have access to the e-portfolio to allow them to complete requested WPBAs, for which you are advised to complete contemporaneously.



What do I do if I have a problem with gaining my competencies?

Problems are easier to solve if they are identified early and taken to the appropriate people. Your first port of call should be your educational supervisor or college tutor, and regular appraisal with them will be invaluable in this respect. If problems remain or are not dealt with to your satisfaction then your TPD or regional advisor should be able to help. The main thing is to be pro-active in your approach to your training. The RCoA has made it clear that 'it is the trainee's responsibility to ensure that their workplace assessments for individual units of training take place by reminding those responsible at the appropriate time: it is not the trainer's role to chase the trainee.' Remember that there is only one of you, but your trainer may be responsible for several trainees.

How can I keep up to date with all the changes?

Many changes have occurred to anaesthetic training and it is vital to keep up to date with them. The RCoA website is regularly updated and details of the competency-based training programme can be found in the training section.

Acknowledgment
Many thanks to Dr Ramani Moonesinghe, Academic Training Co-ordinator at the RCoA, for her assistance with the section of the handbook.

Louise Bates
ST5 Anaesthesia, Wessex Deanery

Elizabeth H Shewry
Past GAT Committee Vice Chair 2008–2010

LESS THAN FULL-TIME TRAINING

Anaesthesia has deservedly developed a reputation for successfully managing and delivering training on a less than-full-time (LTFT) basis. Figures from the GMC survey in 2014 showed that 12.8% of anaesthetic trainees were training flexibly, an increase from 8.5% in 2011 [1].The number of male trainees training LTFT is also increasing and was reported as almost 20% of those training LTFT in 2014.

Training LTFT in anaesthesia is an option for those doctors who need time to care for dependents, to adjust their working pattern if suffering from ill-health or disability, and for those who wish to pursue other non-work related commitments. Ideally it should make a reasonable work-life balance achievable for those individuals; however it can also be a daunting prospect. GAT has collated much of the available information into a comprehensive overview of LTFT training in anaesthesia. This is regularly updated and is being extended to include training in Intensive Care Medicine. The guide can be downloaded from the AAGBI website.

The following section highlights some of the main points covered in the A-Z guide.

Eligibility and application for LTFT training

All trainees are eligible to apply for LTFT training. Those doing so must demonstrate one of the well founded individual reasons summarised below. Trainees in category one will be given priority. The vast majority of LTFT trainees are women who have childcare responsibilities.

Category one:
- Disability or ill-health (may include IVF programmes)
- Responsibility for caring for children (< 18 years)
- Responsibility for caring for ill/disabled partner, relative or dependent

Category two:
- Unique opportunities for personal or professional development
- Religious commitment
- Non-medical professional development

Further information is available from NHS Employers, Welsh Deanery, and NHS Education for Scotland.

Types of LTFT training programmes

The types of LTFT training programmes available are summarised below:

Slot-share: A training placement divided between two trainees so that all the duties of the full-time posts are covered by two trainees.

Supernumerary: These posts can be offered where LTFT training is needed at short notice or a slot share is not suitable.

Reduced hours in a full-time (FT) post: This arrangement was unusual previously because of the service delivery implications but as gaps on rotas increase it may become more common.

Royal College of Anaesthetists

It is very important that you inform the College Training Department when you commence LTFT training, the proportion of FT hours you will be working and the dates of any absences that you may have had. They will use this information to recalculate your CCT date therefore you must keep them updated regarding any subsequent absences or changes to your working pattern.

The RCoA has a Bernard Johnson Advisor with responsibility for LTFT Training who is available for support and advice. In addition there is a lot of information regarding LTFT training available on the College website. The RCoA hosted the Shape of LTFT 2015 meeting, jointly organised by the RCoA and the AAGBI. It was a well received and attended meeting and the resources from it are available on the AAGBI website [1]. Further meetings are planned and provide a good opportunity to meet other LTFT trainees and trainers and consider how to get the best from your LTFT training.

Can I achieve adequate training while working part-time?

Acquisition of a skill is easier if a procedure can be repeated several times in quick succession; therefore training LTFT may make it harder to acquire confidence and progress competence in new skills and situations where the duration between the opportunities to perform tasks is longer than for FT colleagues. The RCoA now recommends that trainees should gain their initial three month competencies while training full-time before reverting to LTFT training [2].

An EU Directive enacted into UK legislation in 2007 set no minimum time proportion for training; however, in a position statement released in October 2011, the GMC reinstated 0.5 WTE as a minimum requirement for LTFT training. In exceptional circumstances a trainee may be allowed to train at less than 0.5 WTE (0.2 WTE being the absolute minimum supported) for a maximum of 12 months [3].

The allowed percentage of hours worked varies according to the LETB policy. In the past, several regions have restricted LTFT hours to 0.5 or 0.6 WTE unless there are individual special circumstances [4], but with workforce issues this may be changing and higher percentages allowed or indeed encouraged. Other regions have always been able to accommodate a degree of flexibility. Interestingly the London LTFT group conducted a national survey of anaesthetic LTFT trainees in 2010 which reported that those training at 0.5 to 0.6 WTE had lower self-reported levels of confidence and competence than those working 0.7 WTE (33.5 hours/week minimum).

You will still undergo annual (in time, rather than training year) appraisal and an Annual Review of Clinical Progression (ARCP) assessment. Although this may seem like an additional burden of portfolio activity it should be used to your advantage to evaluate your training needs and identify any problems early. It will also ensure your case-mix, responsibilities and proportion of out of hours work are educationally comparable to the FT equivalent. Your goals clinically, for workplace-based assessments and continuing professional development should be calculated on a pro-rata basis according to percentage of FT worked. The GMC have produced guidance on the expectations for LTFT trainees at ARCP [5].

Ongoing support

It is important that you know where to seek advice when training LTFT. From personal experience, fellow LTFT trainees are a valuable resource. Many schools of training have LTFT trainee forums, closed Facebook groups and social LTFT get-togethers, which are useful for sharing experiences and resolving common problems. As mentioned above, the national Shape of LTFT meeting in 2015 was a great success and a repeat meeting took place in March 2016 at the AAGBI.

There have been some interesting personal experience articles offering insights into the opportunities afforded and hurdles encountered during LTFT training in anaesthesia [6-9]. There are chapters later in this Handbook on 'The pregnant anaesthetist', 'Training with a long term illness' and 'Returning to practice following a prolonged absence' which may also be of relevance.

The AAGBI regularly updates the LTFT pages of its website and has recently added a map with a list of LTFT contacts across the country [2]. If you have any queries regarding LTFT training and think GAT could be of assistance then please feel free to contact us at ltft@aagbi.org

Emma Plunkett
GAT Committee Honorary Secretary 2015–16 and LTFT Representative

Sarah Gibb
GAT Chair 2014–15. Previous GAT and RCoA LTFT Representative

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APPLYING FOR TRAINING IN ENGLAND

Medical training and recruitment has undergone major change following Modernising Medical Careers in 2007. Smaller changes to the application process happen more frequently. The most up to date information about the application process can be found on the Specialty Training (England) website, including the Specialty Recruitment Applicant Handbook. This covers the application process for all specialty-training programmes.

Specialty recruitment is co-ordinated by the West Midlands Deanery and information is available from their website; this includes the Anaesthetics National Recruitment Office. The RCoA website contains excellent anaesthesia-specific advice. The section 'Careers and Training' contains advice from why to choose anaesthesia as a career and recruitment to less than full-time training

Choosing a specialty

A careers advice service for doctors is available. If you have not already been convinced that anaesthesia offers the best career choice for you, information is available on other specialties. The website has advice for doctors at various stages of their careers and useful links to other websites such as the Royal Colleges. Arranging a taster week during your FY2 year allows you to gain experience of the specialty.

GAT publishes a guide called *Who is the Anaesthetist?*, last updated in 2013. This guide offers advice aimed at medical students and foundation doctors. If you would like to make more direct contact please feel free to email the GAT committee at gat@aagbi.org and we would be glad to help.

Points of entry to anaesthesia

Foundation doctors can apply to anaesthesia training via two programmes; Core anaesthetic training (CAT) and Acute Care Common Stem (ACCS) training. Core training (CT) comprises two years of anaesthesia while ACCS is a three year programme, including six months of Intensive Care Medicine and 18 months of anaesthesia (the other year being a combination of acute and emergency medicine). Anaesthesia training is uncoupled; after completion of basic core training it is necessary to repeat the application process to enter a five year specialty training programme (ST3-7) that leads to the Certificate of Completion of Training (CCT). There is now also a standalone CCT in Intensive Care Medicine. See the Faculty of Intensive Care Medicine website for further information. It is possible to achieve dual CCT in anaesthesia and intensive care. There are also academic clinical fellowships (ACF) in anaesthesia; see the National Institute for Health Research website for further details.

Maximising your chances

Preparation is the key to being successful in your application. Information on the person specifications for CAT, ACCS and ST posts is readily available. Review these to ensure you meet all the essential criteria and have addressed them in your application form. Some areas that score points need time and effort to achieve – you may need to start addressing these areas as a medical student or foundation doctor. The Specialty Training (England) website also gives details on the numbers of posts available and number of applicants to each Unit of Application (UoA). You may wish to take advantage of these numbers to guide your application. Information about each School of Anaesthesia can be obtained from either an individual LETB website or the corresponding School of Anaesthesia website. Alternatively, advice may be sought from the RCoA College Tutor in your hospital or the Regional Advisers and Training Programme Directors for the schools to which you wish to apply.

The application process

In 2010 anaesthesia piloted national recruitment for CT2 and ST3 posts, co-ordinated by the West Midlands Deanery. National Recruitment to CAT and ACCS anaesthesia has now been combined and fully adopted. Posts are advertised in the *BMJ*, on NHS Jobs and the Oriel online application portal.

Applications are made via a central electronic portal (Oriel) and co-ordinated by the Anaesthetics National Recruitment Office. Applicants are required to rank as many UoA as they wish to apply for. Twice yearly recruitment occurs for August and February starts. One application form is completed for both CAT and ACCS; applicants can indicate on the form whether they wish to be considered for CAT, ACCS or both. Long listing is performed by ANRO to remove any applicants ineligible for appointment on the basis of GMC status, level of experience and standard of written and spoken English.

An important part of the application process is the completion of a self-assessment form. The score generated from this is used to determine your final ranking and in which UoA you will be interviewed. For accuracy, the score is confirmed during the interview process. Applicants will be invited for one interview (see below).

ACF recruitment is run by the National Institute for Health Research trainees co-ordinating centre. Importantly, if appointed as an ACF, the candidate will also have to reach appointability in a specialty clinical interview, which requires a separate application via Oriel.

This recruitment process covers the whole of Great Britain and Northern Ireland.

Interviews

A national standardised interview process was implemented in 2011 but interviews are still conducted locally at each School of Anaesthesia. Interviews comprise of a minimum of three stations; a clinical interview, portfolio review, presentation, and possibly a School specific station, each with a minimum of two consultant assessors. The portfolio station will review your self-assessment form and it is essential you provide evidence for all domains from which you have claimed points. These stations are designed to assess various aspects of your personality, team working, performance under stress, past achievements and clinical decision-making. The interview process is transparent and allows for adequate preparation.

If you are unsuccessful in your interview all is not lost. Assuming you are deemed appointable, you will be entered into a pool of applicants and may be offered a post in another UoA.

Success

All offers of appointment will be made via the Oriel recruitment system, where offers may be accepted, held or declined. Candidates unsuccessful in the first round, but deemed appointable at interview, are eligible for clearing, and would be asked to preference all remaining posts (the clearing posts). There is no requirement to attend another interview for clearing posts. Offers for posts in the second round, or through clearing, will also be made using Oriel. A separate national recruitment occurs for Locum appointed for Training (LAT) anaesthesia posts co-ordinated by ANRO. Interviews for these posts take place in the West Midlands. Feedback is made available to any unsuccessful candidate.

Good Luck!

Claire Williams
Previous GAT Committee Member
Consultant, Cambridge University Hospitals NHS Foundation Trust

Nicola Barber
Deputy Regional Advisor, East of England School of Anaesthesia
Consultant, Cambridge University Hospitals NHS Foundation Trust

APPLYING FOR TRAINING IN WALES

Anaesthetic training in Wales presents the opportunity to train in diverse settings including both urban and rural environments. The Welsh School of Anaesthesia represents a single unit of application, with the school covering 12 acute hospitals across Wales.

Core training in anaesthesia

Core training in anaesthesia in Wales follows a similar path to that described in the previous chapter 'Applying for Training in England'. The recruitment process is nationally co-ordinated by the West Midlands Deanery, on behalf of the RCoA. Core Training can be accessed via Core Anaesthetic Training or via the longer three year Acute Care Common Stem training programme. Core training is normally based at a single hospital or region, such as South East, South West or North Wales.

CT3 anaesthesia

An additional year of training at CT3 level has been uniquely approved by the GMC for the Welsh School of Anaesthesia. This consists of an additional six month placement in anaesthesia, combined with a six month placement in emergency medicine, intensive care medicine (ICM) or acute medicine. This extra year of training is very popular among trainees, and those interested in such a programme should apply during the early months of their CT2 year of training.

Specialty training in anaesthesia

The Specialty Training (ST) programme and recruitment in Wales reflects that in England (please refer to the previous chapter). Recruitment is via a nationally co-ordinated process twice annually, as at CT level. This is co-ordinated by the West Midlands Deanery, on behalf of the RCoA, for a five year programme ST3–ST7. Training programme preferences are made at the time of application and candidates are encouraged to rank all rotations available. The first three years have fixed hospital placement, while the final two years are indicated as either South Wales or North/South Wales to allow greater flexibility for advanced training options, which are determined at the end of the ST4 year. Access to the electronic application portal for national recruitment is via the West Midlands Deanery website.

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Higher training opportunities

Higher training consists of one year of higher training in general duties in a district general hospital and a further year of subspecialty training in ICM, neuroanaesthesia, paediatric, cardiac and obstetric anaesthesia.

Advanced training options

Following the successful completion of intermediate training (ST3 and ST4), trainees have the opportunity to apply for advanced training in a range of subspecialist interests as part of the 2010 curriculum.

Advanced training options available at the Welsh School of Anaesthesia are subject to competitive entry. Popular advanced training modules include ICM, obstetrics, paediatrics, cardiac, research and teaching, advanced airway management, pain medicine and advanced general duties.

Education and research

The University Hospital of Wales has strong links with Cardiff University and has a well-known reputation for research and education, including a new simulation centre. Trainees with an interest in education or research can undertake a six month placement in research or education as part of their advanced training. A clinical lecturer post option is also available in Swansea. There is also the option of becoming involved with the trainee-led Welsh Anaesthesia Audit, Research and Engagement Network (WAAREN).

Less than full-time training

The Wales LETB fully supports trainees who wish to train less than full-time, and there is a strong network of consultants and trainees that make this process straightforward. A popular return-to-work course has recently been set up locally to help trainees return to anaesthesia following a break in training.

Support for trainees

The Junior Anaesthetists of Wales (JAW) group is an organisation established and run by Welsh trainees with the aim of promoting academic and social wellbeing for trainees in Wales. JAW holds an annual meeting and offers great social and educational opportunities for trainees.

A 'Buddy Scheme' also operates in Wales. This pairs up new anaesthetic trainees with post-fellowship trainees who can offer guidance, encouragement and advice throughout training. This is in addition to the support provided by a motivated team of consultant educational supervisors and college tutors.

Intensive care medicine

In August 2012 a new curriculum for a single CCT in ICM training was introduced in the UK. Wales offers both Dual and Single CCT training in ICM with exposure to cardiac and neuro intensive care environments. See the Faculty of Intensive Care Medicine website for further information.

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APPLYING FOR TRAINING IN SCOTLAND

Despite the devolution of the Scottish NHS in terms of healthcare delivery, anaesthetic training is consistent with the rest of the UK. Trainees are members of the RCoA, sit the same exams and are awarded the same CCT when training is complete.

Anaesthetic training in Scotland is provided by four separate LETBs and Schools of Anaesthesia: North of Scotland, East of Scotland, South-East of Scotland and West of Scotland. Scotland is incorporated into the national recruitment process with competitive selection at entry into CT/ACCS and ST. The application and delivery of specialty training in Scotland is overseen by NHS Education for Scotland (NES), ensuring the standards set by the GMC and the curriculum set by the RCoA are met.

How many jobs are there?
There were 48 anaesthetic CT1 posts available in Scotland for 2015 and an additional 18 ACCS (anaesthesia) posts. At ST3 level there were 36 anaesthetic posts and 10 dual anaesthesia and ICM posts. This number has remained fairly constant over the past few years. All LETBs offer the opportunity to work in both a tertiary and district general hospital environment.

What is the recruitment procedure?
During the application process, candidates are required to rank, in order of preference, all Units of Application in the UK, including Scotland. Application form scores dictate which Unit interviews you, but candidates will only be interviewed by one Unit dependent on their application score. Hence, if you are interviewed in Scotland you will not be interviewed elsewhere in the UK. Final ranking is based on performance at interview. On applying, candidates are required to rank the four Scottish LETBs in order of preference for both core anaesthetics and ACCS posts. The highest ranked candidates will be assigned posts in their chosen LETB. Lower ranked candidates offered a second or lower choice LETB can hold an offer in the hope of securing their first choice in the event of a higher ranked candidate turning down their offer, or equally they can choose to accept/decline the initial offer made to them.

Applicants for ST3 posts

Application for ST3 posts in Scotland is also part of the national process. Candidates can apply for a maximum of two Units of Application, including Scotland, and can potentially be interviewed by and offered a job at both. In order to apply for an ST3 post you must have achieved a pass in the primary FRCA. The pressures of achieving a pass in the primary FRCA within a two-year window (CT1/2) has meant that some past trainees have not been able to progress to ST3 as planned. There is some provision from NES Scotland for trainees in this position to undertake an additional year while completing exams in order to be eligible to apply for an ST3 post.

Seb Bourn & Tom Bloomfield
ST4 Anaesthetic trainees, SE Scotland

APPLYING FOR TRAINING IN NORTHERN IRELAND

Northern Ireland is a small but great deanery with lots to offer. The training deanery consists of six health and social care Trusts across Northern Ireland and these Trusts service a population of 1.8 million. The Belfast Trust is the largest in Northern Ireland making it one of the largest Trusts in the UK. Anaesthetic training takes place over several acute hospital sites; these include the Royal Victoria Hospital, Belfast City Hospital, Antrim Area Hospital, Craigavon Area Hospital, Ulster Hospital, and Altnagelvin Area Hospital. The Northern Ireland Medical and Dental Training Agency (NIMDTA) is responsible for funding, managing and supporting postgraduate medical and dental education within the Northern Ireland Deanery. It provides a range of services for those engaged in the delivery of postgraduate medical and dental education, courses and training.

Application process

Anaesthesia is a popular specialty in Northern Ireland and this is reflected in the level of competition. It attracts applicants who have completed time in other specialties in addition to direct entry from the foundation programme. Taking time for taster sessions, clinical audit and courses related to anaesthesia plays an important part in preparing a competitive application. Northern Ireland participates in the national recruitment process administered via the West Midlands Deanery. Core and specialist training applications are both consistent with the rest of the UK.

Core training

Core training is a two-year programme leading to a certificate of basic training prior to competitive application for specialist training. Adverts for CT1 posts generally begin to appear from November for posts commencing in August of the following year. For each core trainee, training placements are delivered over two of the hospital sites mentioned above, with one year spent in each.

Specialist training

ST3 posts are advertised from February for training commencing in the following August. At least 24 months experience in anaesthetics and/or intensive care medicine (not including foundation modules) is expected by the time of the intended start date of the post. However, no more than six months of these 24 months should be in intensive care medicine. Successful completion of the Primary FRCA examination is also required by the date of interview.

The interview process

Shortlisted candidates will be offered one interview. These interviews will be conducted by trained selectors against the criteria set in the personal and job specifications, and last around 40 minutes. These interviews take place a local level generally at the unit of application. Candidates are scored and ranked from these results. It is possible to miss out on a place at your chosen school yet be deemed appointable and therefore have the potential of an offer of appointment to a different school. The interview format may change as national recruitment evolves, but it has previously consisted of a document check on initial attendance to ensure you have met all the required eligibility criteria. This is a must and really helps to make the interview run smoothly on the day. The interview itself consists of a portfolio review, a five minute unseen presentation based on topical issues not necessarily related to anaesthesia (five minute preparation time with either poster or acetate presentation) and clinical interview based around a medical scenario.

Successful applicants will receive offers via the Oriel online system, through which offers may be accepted, declined or held.

Education/advancing through training

Educational courses and study days are generally coordinated by the NIMDTA via the online system. Excellent teaching is provided by NIMTDA to help trainees studying for the Primary and Final FRCA. Each year four senior trainees take up tutor roles, two for the Primary FRCA and two for the Final FRCA. These trainees coordinate compulsory teaching sessions, exam practice sessions and provide excellent support for trainees preparing for upcoming examinations. In Northern Ireland, trainees must now take the Primary and Final FRCA at the RCoA in London rather than at the College of Anaesthetists of Ireland.

Advanced training options are available with competitive application for fellowships including posts in the regional trauma centre, obstetric anaesthesia, cardiac anaesthesia, paediatric anaesthesia, intensive care medicine, pain medicine and research. The Achieve Develop Explore Programme for Trainees (ADEPT) offers an opportunity to develop organisational and leadership skills in healthcare by taking time out of programme to work with senior leaders in organisations within Northern Ireland. Queens University Belfast provides opportunities to explore further education and research. Other opportunities include involvement within the trainee led Audit and Research Network Northern Ireland (ARNni).

The Northern Ireland School of Anaesthesia website provides information on upcoming social events, links to educational material for the FRCA examination and educational study days.

Best of luck!

Adam Lowe
Core Trainee, Northern Ireland School of Anaesthesia

Charlene McDonnell
Specialist Registrar, Northern Ireland School of Anaesthesia

APPLYING FOR TRAINING IN THE REPUBLIC OF IRELAND

The College of Anaesthetists of Ireland (CAI) co-ordinates the training of Specialist Anaesthetic Trainees (SATs) in the Republic of Ireland. There are currently 210 SATs on the scheme, with an average of 40 trainees entering the scheme every year. Entry to the scheme is via a centralised national interview process.

The SAT scheme is a six year programme. It is a run-through scheme, provided a trainee meets the required milestones. These waypoints include a broad selection of modules, and successful completion of the Membership and Fellowship examinations. Trainees are also required to maintain a logbook and a training diary, and attend a number of mandatory simulation training days. The SAT will attend progression interviews at multiple time points to assess progress.

The first two years are basic training, followed by three years of subspecialty training, and the final year is advanced training. The SAT will have an option to pursue a special interest year in intensive care medicine, pain medicine, paediatric anaesthesia or obstetric anaesthesia during their sixth year. They will rotate through accredited hospitals recognised by the CAI every 6–12 months to gain the required experience. The first 2–3 years of the rotation is regionally based within three areas: Western, Eastern and Southern Ireland. Trainees will receive a Certificate of Completion of Specialist Training (CCST) at the end of training,

and may then practice independently as a consultant. Post-CCST fellowships are available in intensive care medicine and pain medicine. Successful completion of these fellowships will result in the award of an additional CCST.

Application process

There is an annual recruitment process, with interested candidates submitting an application form to the training office of the CAI around January every year. Eligibility depends on successful completion of the intern year (postgraduate year). A maximum of 40 points will be awarded for undergraduate achievements, postgraduate experience and exams, academic achievements, courses and references.

The interview process

Candidates with the highest score on the application form will be invited to interview around February or March. Another 60 points are available at interview, bringing the total maximum score to 100 points. The top 40 candidates will be offered positions on the SAT scheme.

Tips for success at interview

It is important for candidates to score as many points as possible in the application and interview process. The application form is available online, and outlines the points awarded for various items. Ranking in final medical school exams and awards or achievements as an undergraduate are important. Previous anaesthetic experience as an intern or SHO, and success in postgraduate examinations (MCAI, MRCP, MRCS) will also score points. Other areas to earn points include involvement in audit and research projects in your local anaesthesia department, presentations at an anaesthetic meeting, and attending relevant courses (e.g. ACLS, ATLS).

More detailed information on training and examinations are available on the CAI website.

Good luck!

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SAT 4, National Training Committee, CAI
Committee of Anaesthetic Trainees (CAT), CAI

David Moore
SAT 6, National Training Committee, CAI
Committee of Anaesthetic Trainees (CAT), CAI

OUT OF PROGRAMME TRAINING/RESEARCH

Out of programme training (OOPT) is clinical training taken out of programme that will count towards the CCT or Certificate of Eligibility for Specialist Registration (CESR) provided certain conditions and requirements are met.

Out of programme research (OOPR) relates to trainees applying to undertake research as part of their training experience. Research projects may last up to three years and can contribute up to one year towards the trainees CCT. Research should usually be towards a higher degree.

The experiences and skills you develop during OOPT/OOPR can make it an immensely exciting and satisfying opportunity. It allows a period of time, often away from your region or LETB, to gain experience in your specialist interest. Consultant posts are competitive and therefore anything to make you 'stand out from the crowd' is worthwhile. With the changing face of the NHS it can also lead to exploring potential future job opportunities.

Your decision on what to do and where to go during OOPT/OOPR will depend on a number of factors – country, language, subspecialty interest, research interest and supervisors. It is important to plan when the correct time for you would be to undertake a fellowship and this will depend on what you want to achieve, which modules you would like to complete and what advanced training you wish to gain. In making a decision you will find a wealth of knowledge about past experiences, potential posts and opportunities among senior trainees and consultants.

Eligibility

To be eligible for OOPT/OOPR you must have completed the final FRCA and be in training years ST5/6/7. It is important to liaise with the training programme director to ensure that you meet the eligibility criteria for your region or LETB. For example, your anaesthetic school might only allow a certain number of trainees away at any one time. It also should be noted that any OOPT cannot be undertaken in the last six months prior to obtaining your CCT.

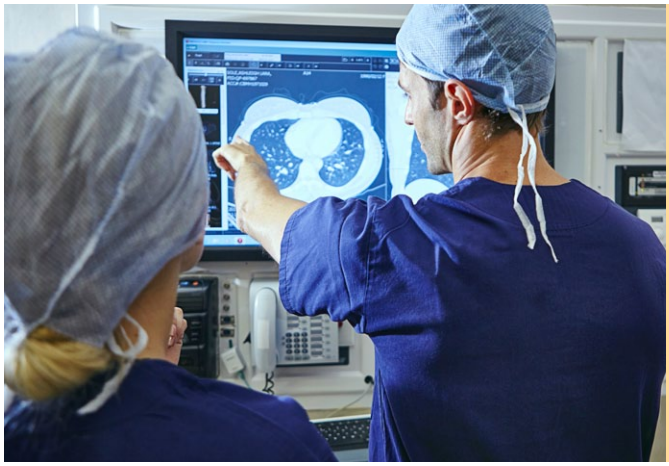
For the post to count towards training it has to be prospectively approved by the RCoA and GMC. Retrospective submissions are no longer permitted. The time permitted for OOPT is usually one year and OOPR usually does not exceed three years.

The paperwork and planning

Organising OOPT/OOPR requires lots of planning, therefore it is important to find a clinical/academic supervisor at least a year prior to commencing the post. There is a large amount of paperwork which will need to be reviewed and signed and a meeting with your training programme director is also imperative.

To ensure the programme is suitable for an individual's training needs, the aims and objectives of training requirements should be mapped to the RCoA curriculum. This will be done in conjunction with your LETB, the RCoA and the department in which you intend to work. All paperwork needs to be completed and submitted at least six months prior to the start date. For an ICM/pain fellowship, approval will be required by the regional advisor for the relevant specialty in your region.

Once all the paperwork is complete and the timeframe confirmed, the remaining details of the year can be addressed. Although the aim may be predominantly to form part of higher/advanced training or completion of a higher degree it can also fulfil other training needs and contribute to development of your CV. This can include roles within education and teaching, leadership and management, quality improvement initiatives as well as other relevant courses and projects. Identifying a clinical or academic supervisor well in advance will allow you to not only organise your research or training programme but also incorporate these opportunities into the timeframe.



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Practicalities

Obtaining visas and medical clearance, if applicable, may take some months and will need to be factored in to when you will be able to officially start. Other considerations prior to commencing your new post include medical indemnity cover, appropriate medical council registration, criminal record check, ongoing GMC registration and pensions payments.

On your return

During the year stay in contact with your training programme director to ensure that, on your return, placements and outstanding modules can be completed. Trainees are required to complete an OOPT/OOPR report on their return. Although this has no set format it should include details and evidence of any research, audits, projects, courses modules completed, assessments (DOPS, ACEX, ALMAT, MSFs) and a summary of cases. Therefore it is imperative to keep copies of presentations given, teaching feedback forms and course certificates, as well as supervisor feedback to use as supporting evidence in your report. Conversely your supervisor for the out of programme post will be asked to complete an appraisal report outlining what you have achieved during the post.

Despite the planning and paperwork that is required, doing OOPT or OOPR is a period of time that can be hugely rewarding. Time for completion of specialty training to CCT can go quickly and once a consultant post is obtained it may prove more difficult to work abroad for extended periods. Equally being granted time away from clinical commitments to conduct research or explore your interest in different areas of anaesthesia can prove more difficult once in an established consultant post.

The UK consultant job market is competitive; out of programme training can make you stand out on an application form or at interview. The time spent during OOPT or OOPR can not only expand skills and knowledge but you can bring back renewed ideas, thoughts and enthusiasm to make you a well-rounded individual able to contribute to a dynamic department; providing both professional and personal satisfaction.

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ANAESTHESIA TRAINING AND THE ARMED FORCES

Background

The Defence Medical Services (DMS) recruits doctors at all stages of training, from cadets at university through to accredited consultants. The entry process remains stringent and places for medical officers in acute specialties are very competitive. Each single service requires a specific entry selection and completion of initial training. Newly qualified medical officers receive a first posting as general duties medical officers (GDMO) and, depending on chosen service, specialty training commences 1–3 years later than NHS peers.

The Tri-service governing body for all military clinical training is the Department for Defence Healthcare Education and Training. Once accepted into anaesthesia training, trainees come under the umbrella of the Department of Military Anaesthesia, Pain and Critical Care (DMAP&CC) and the Defence Medical Deanery (DMD).

The DMAP&CC is not only responsible for anaesthesia training, but is also the lead for operational deployments, research, all innovations in equipment and techniques related to anaesthesia, pain management and intensive care medicine. The Defence Consultant Adviser in Anaesthesia, Pain and Critical Care and the Defence Anaesthesia Specialty Board run the specialty on a day-to-day basis. Also included in this team are a chief of staff and three Defence Regional Advisers. In addition each service also provides a consultant adviser (CA) for further assistance to consultants and trainees. The Army has independent CAs for anaesthetics and critical care. The Defence Professor in Anaesthesia, Pain and Critical Care oversees academic endeavour.

Path to a consultant

Once a trainee has made the decision to pursue a career in anaesthesia, candidates must successfully gain entry into an ACCS anaesthesia training programme [1]. The DMS does not currently offer core anaesthesia training numbers. Completion of ACCS training offers individuals greater options for change and retention within the DMS.

Once successful in passing the Primary FRCA examination, DMS trainees are then eligible to apply for competitive entry into one of two ST3 training programmes; standalone anaesthesia or standalone intensive care medicine [2]. Application for dual anaesthesia and ICM training is currently done via a stepped process over two recruitment episodes [3]. Depending on individual choice, intermediate, higher and advanced specialty training then follows a clear path according to the respective RCoA and Faculty of Intensive Care Medicine. The examination for the fellowship of the FICM (FFICM) mirrors that of the FRCA having both primary and final components. However, at present, those that have full FRCA are exempt from the primary FICM examination. For standalone or dual accreditation in ICM trainees must obtain the FFICM.

Pre-hospital emergency medicine (PHEM) is a new subspecialty area of training with accreditation awarded via an increasing number of approved national programmes. Due to concerns regarding future revalidation the DMS only supports applications for PHEM training from standalone anaesthesia and ICM trainees. Selection takes place during the intermediate phase of training [4]. For PHEM accreditation trainees must also pass the Royal College of Surgeons of Edinburgh (RCSEd) Diploma and Fellowship exams in Immediate Medical Care [5]. The Intercollegiate Board for Training in Pre-hospital Emergency Medicine is responsible for PHEM trainees on behalf of its parent Colleges [6].

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Selection for ACCS and all subsequent career paths is performed in the same manner as for civilians. DMS consultants are involved in the interview process ensuring candidates are directly compared and benchmarked against their civilian colleagues. If successful, trainees are then offered a place in one of 12 LETBs with which the DMD has links.

Specialty training also follows the same path as for civilian trainees, under the auspices of the RCoA, FICM and RCSEd with a small number of exceptions. This includes being able to provide military trauma anaesthesia using military protocols. All trainees undertake mandatory annual military training to complement their clinical skills. Keeping fit is a requirement and annual testing is undertaken. Compulsory training varies between the three services and includes refresher training of basic military skills such as weapons handling, firefighting, first aid, dinghy drills, helicopter escape and chemical, biological, radiological, and nuclear warfare training to mention a few.

In 2008, the former Postgraduate Medical Education and Training Board (PMETB) formally recognised the Military Anaesthesia Higher Training Module [7]. This has been incorporated into the CCT syllabus [8] and is designed to be flexible to allow trainees to be up to date with new developments, while providing a framework for maintaining core knowledge and skills.

During the recent conflict in Afghanistan, military anaesthesia trainees had the opportunity to work alongside experienced consultant colleagues and receive one to one training [9]. To prevent loss of corporate experience from lessons learned, the military module was recently updated offering a broader platform to prepare trainees for future operational deployments (hostile and peacekeeping). Competencies previously attained on deployment are now delivered via a number of key military courses using high fidelity simulation training and tailoring of clinical experiences. The new military module maintains the goal of equipping trainees with additional knowledge and skills required to ensure wounded personnel receive the highest quality of healthcare wherever they are serving. Learning objectives for the module consist of the following:

- The ability to deliver and organise military pre-hospital care during casualty retrieval [10,11].
- Principles of in-hospital resuscitation and field anaesthesia [12–14]
- The management of anaesthesia and critical incidents using field surgical equipment [15]
- Field critical care and aeromedical evacuation [16]
- Battle casualty rehabilitation
- Deployed military hospital management
- Attitudes and behaviour [17,18]

During training, opportunities exist to develop specialist interests with potential for OOPT in the UK and abroad, provided they complement the role of the military anaesthetist. This includes areas such as intensive care, pre-hospital care, pain management (including regional anaesthesia) and acute trauma. Overseas fellowships are used for focused training in areas relevant to military medicine and competition to gain these highly sought after places is high. LETB funding, at this time, also includes generous study allowances and financial help with examination fees.

Additionally, there are the annual meetings of the Tri-service Anaesthetic Society and the Society of Tri-service Anaesthetists in Training. These academically focused meetings provide an opportunity to get the latest military updates, as well as compare notes with other military anaesthetists (consultants and trainees) across the country.

Once a CCT has been obtained, trainees attend an Armed Services Consultant Advisory Board (ASCAB); the military version of a consultant appointment interview. It is conducted in the same way as a civilian appointment and is approved by the NHS. Following this comprehensive interview, the trainee is a fully-fledged DMS anaesthetic consultant and member of defence anaesthesia.

Operational deployments

When trainees undertake an operational deployment they do so under the supervision of a defence anaesthesia consultant. Up to two months of a deployment may be able to count towards training, provided that prospective approval from the RCoA has been sought. Operational deployments vary, but are usually to a field hospital in an operational area. For Royal Navy trainees this may be in support of a seaborne operation. Likewise, for Royal Air Force Medical Service (RAFMS) trainees there may be opportunities to deploy in support of an Aeromedical Staging Unit. For the most part, however, anaesthesia and critical care trainees come under the Tri-service umbrella and work together in field units.

RAF trainees are supervised, as an integral part of their anaesthetic training, as members of CCASTs. This complements other RAFMS specific training for aeromedical evacuation duties. CCASTs are deployed and are on standby to repatriate critically ill patients from anywhere in the world, in what is essentially a fully equipped flying intensive care unit.

Royal Navy trainees may have the opportunity to deploy to the primary casualty receiving ship (hospital ship), RFA Argus, or as part of a small team on another maritime platform. Again, this depends on prevailing military operations.

Anaesthetists also take an active role in management within the field hospital with full participation in clinical governance and management issues specific to working in a field environment. Senior anaesthetists are often selected to become deployed medical directors, advising commanders on medical matters and assisting in the overall medical management strategy. Before a field hospital deployment, all attend a hospital simulation exercise (HOSPEX), which is undertaken in a mock field hospital setup. HOSPEX tests not only the team's clinical skills and decision making, but also the 'journey' of a patient from the arrival in the helicopter by the pre-hospital medical emergency response team,, through the emergency department, operating theatres and ICU, with evacuation back to the UK, via the CCAST. Casualties are simulated by live actors from commercial firms to increase realism. This training is required because, while deployed, anaesthetists have duties in the operating theatres, the intensive care unit and are members of the trauma team. They may also be required to transfer critically ill patients via helicopter or fixed wing aircraft. Anaesthetists are also key members of the medical emergency response team.

Another mandatory pre-deployment training course is the Military Operational Surgical Training Course. This runs for a week at the Royal College of Surgeons and is a team-training course with a focus on team resource management. There is a combination of cadaveric scenario based exercises with the trauma surgeons and the opportunity to practice, during high fidelity simulation, some of the typical cases that will be encountered while deployed. This course gives the opportunity to become familiar with standard operating procedures [19] and the actual equipment used on deployment. The use of non-technical skills is very important when deploying to an environment that is very different to that experienced in the course of routine NHS work and the human factors required for defence anaesthesia have recently been described [20].

Research

Defence anaesthesia trainees with an interest in academia

are encouraged to undertake military directed research. The Defence Professor in Anaesthesia and Critical Care leads the academic department based at the Royal Centre for Defence Medicine with a team of RCoA-appointed senior lecturers and foundation senior lecturers. Any trainees wishing to undertake a higher degree are encouraged and compete for limited places. Trainees will be expected to complete significant projects before moving on to a higher degree and local research and audit is expected.

Reserve medical forces

All three services provide a reserve land force for support of regular forces on missions in the UK and overseas. They carry out the same roles to the same high standards and receive the same world-class training and develop the same skills. To meet security challenges of the future the reserve forces are currently being revitalised with a drive for personnel to work more closely with regular forces, bringing more opportunities to enjoy greater challenges and creating an integrated force [21]. Reservists are mobilised as individuals for their specific skills or as ready-formed units to serve alongside regular forces. The Reserve Forces Act 1996 provides the legal framework and mechanisms for training and mobilisation of personnel, while offering safeguards to the NHS [22].

Developing core skills of communication, teamwork and leadership, fostering a can-do attitude and continued professional development are all transferable values for NHS practice. On average the annual commitment for defence training is 27 days. NHS employers provide 14 days additional paid leave and the remainder is paid by the armed reserve forces. Pay rates are equivalent dependent on rank, role and experience.

Reserve trainees are not required to complete a GDMO posting and as a result there is no delay in applying for NHS specialty training numbers. If desired they may apply for training in core anaesthesia rather than the ACCS training programme in any region. Supervision and management of specialty training is via a regional LETB and not the DMD. Completing the higher military module is strongly recommended and supported. Following the award of a CCT there is no ASCAB but a civilian equivalent interview is required for successful NHS consultant employment.

Summary

It is now widely expected that the recent patient outcomes achieved in Afghanistan provide the baseline from which the DMS aspires to deliver on future operations. The DMS continues to go from strength to strength, currently reconfiguring for contingent operations that lie ahead with sustainment of innovation in concepts, clinical techniques, education and research. A career in military anaesthesia is exciting and challenging, demanding a high level of expertise, initiative and flexibility. It gives the unrivalled opportunity to be part of a team that has previously been shown to provide standards of medical care that are world-leading [23]. It is not for everyone, but talk to those who are part of it and you may be surprised that it might just be for you!

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Specialty Trainee in Anaesthesia, Defence Medical Services

Surgeon Commander Simon J Mercer
Royal Navy
Consultant in Anaesthesia

Lt Col Jonathan Round
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Consultant in Anaesthesia

Colonel Duncan Parkhouse
late Royal Army Medical Corps
Defence Consultant Adviser in Anaesthesia, Pain and Critical Care.

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LOGBOOKS, CONFIDENTIALITY, SECURITY AND DATA PROTECTION

Anaesthetists in training are required to keep a logbook to record their experience [1]. This does not prove competence but it does enable trainers and College Tutors to see what a trainee has done and if there are any gaps in their training. Most choose to maintain an electronic logbook, but keeping a personal record of details about patients has significant implications [2]. There are both professional and legal obligations regarding clinical records. Anyone keeping a logbook must be aware of these if they are not to fall foul of the GMC or the Courts.

Software selection

The RCoA makes no specific recommendations as to which logbook software to use. The College's logbook software has been in use since 1996, is free to use and remains supported by the developers.

The following criteria can be used to judge which logbook software to use:

1. **Data format** – If the logged cases are stored in a format that is recognisable to other logbook software the likelihood of total data loss is reduced.
2. **Features** – An essential feature is to ensure there is a method of exporting a summary in the RCoA CCT approved format as described above. Other desirable features include a means of backing up logbook data and an ability to import and export data to allow the user to change logbook provider.
3. **Cost** – This may be a one off payment or recurring charge subscription. Be aware that charges can change, even for free software.
4. **Data handling transparency** – Ensuring the security of data held 'in the cloud' is important. Likewise data are a commodity and by using some logbook software you may be granting a right to use your data for commercial purposes.
5. **Support** – Ensure timely support is offered, particularly where a fee has been paid.

Whatever software is chosen, consideration must be given to how the logbook is backed up. Significant anxiety can result from a lost logbook and trying to recreate one from theatre records is an onerous task. Backups should be in an appropriate format that can be imported back into the original software and a format which can be imported into different logbook software.

Acts of Parliament

There are two Acts of Parliament relevant to the keeping of logbooks: the Freedom of Information Act 2000 and the Data Protection Act 1998. The essence of the Freedom of Information Act is that patients have the right to know what is recorded about them. It is important therefore that records are factual and accurate. Significant inaccuracies could be regarded as fraud, which would have serious consequences. The provisions of the Data Protection Act can be summarised by its eight principles. In abbreviated form these are that personal data shall:

- Be processed fairly
- Be obtained only for one or more specified and lawful purposes
- Be adequate, relevant and not excessive
- Be accurate and, where necessary, kept up to date
- Not be kept for longer than is necessary
- Be processed in accordance with the rights of data subjects
- Have appropriate technical and organisational measures taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data
- Not be transferred to a country or territory outside the European Union without adequate protection

Data protection and GMC confidentiality guidelines require careful adherence. This is detailed in section 9.2 of the Curriculum for a CCT in Anaesthetics (2010) which states: 'The RCoA recommends that trainees only record the age [not date of birth], sex and ASA grade of patients and that no other unique numbers are retained.'

JP Lomas
RCoA Council Member

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ANNUAL REVIEW OF COMPETENCY PROGRESSION

The system of assessment for all trainees, and any others in training posts, is called the Annual Review of Competency Progression (ARCP).

The rules and expectations of the assessment process are detailed in the *Gold Guide*, as are all aspects of training. Information on the ARCP process and outcomes is in Section 7. All training bodies in the UK must follow this. Different regions conduct their ARCPs slightly differently, and interpretation of the *Gold Guide* varies a little between LETBs.

The ARCP is a documentation exercise to show that the trainee is progressing at the appropriate rate through specialty training. The decision of the panel is made based on the evidence provided by the trainee and their educational supervisor. It is an annual event for each trainee but can be more frequent if necessary – see outcomes below. Less than full-time (LTFT) trainees also have an ARCP each calendar year, although this does not correspond with each year of training.

The ARCP is a summative process with clearly defined standards to be met and the possibility of not meeting them, hence the range of possible outcomes. Documents submitted to the panel for review are generated by the trainee on the e-portfolio, or in exceptional circumstances on paper. Prior to the ARCP, the trainee meets with his/her supervisor to review the year's portfolio and complete the Educational Supervisors Structured Report (ESSR). The ESSR is then submitted to the College Tutor for comment and then the ARCP panel for review. It is encouraged that revalidation paperwork is completed at this time, including probity and health statements and form R which comes from the LETB, as supervisors are able to sign them off at the same meeting.

The ARCP panel includes at least three members from a list of

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options which includes the Head of School, Training Programme Director (TPD), Dean, Lay Representative, External Assessor (often from the College), College Tutors and experienced trainers. The panel must review the documents and make a decision on outcome before they meet the trainee – it is for this reason that good, clear, complete documentation is essential. Think of it as a written exam, only what is in the ESSR/in the portfolio can be counted. If you are in any difficulty, for example you have not passed an exam on time, this should be made known to the TPD in advance so that this can be taken into account. There should be no surprises on the day.

The rules do not require a trainee to be present to meet the ARCP panel unless they have been given an outcome other than satisfactory (outcome 1), in which case the outcome must be given to the trainee in person.

ARCP outcomes

Satisfactory outcome:

1. Achieving progress and development of competencies at expected rate. This is the most common outcome.

Unsatisfactory outcomes:

2. Specific competencies required, no additional time needed. Certain competencies are missing but there is opportunity to achieve them without extra time. This is essentially a chance to focus on certain issues or topics which are not up to standard and is generally reviewed after six months at an (early) ARCP.
3. Inadequate progress, additional time required. This means the training 'clock' will stop until the specific competencies have been achieved. A common example would be failure to pass an exam by the end of the relevant section of training (e.g. Primary FRCA by end of CT2). If it is necessary to allow another sitting in the next training year, extra time will be required at that level as the trainee cannot progress to the next year without passing the exam. The maximum time that the clock can be stopped is one year in total for all of training. Only the Dean can allow more time and only then in exceptional circumstances. Extra time may be referred to as an extension of training time or as remedial training.
4. Released from programme. Training number is withdrawn. An example of this outcome would be failure to pass an exam by the end of maximum remedial training time. It can also be allocated if a trainee is making insufficient and sustained lack of progress.
5. Incomplete evidence. The paperwork is not complete. This is a temporary outcome that will become a 1 if the reason is rectified within the time limit stipulated by the panel. It will become an outcome 3 if more time is required.
6. Gained all competencies for the training programme. Can be awarded on completion of core training in anaesthesia and at the final ARCP of Specialty Registrar training.
7. FTSTA or LAT outcome: This is split into sections similar to the trainee outcomes; 7.1 being satisfactory, 7.2 extra focus, 7.3 extra time, note 7.4 is insufficient evidence.
8. Out of programme: Requires a report from the out of programme supervisor and is issued for all out of programme training or research.

These outcomes are very prescriptive in nature and offer little in the way of interpretation. Obviously the vast majority of trainees will achieve outcome number 1 but some will require extra time and/or support, often for failure to obtain the exam at the appropriate time.

If a trainee is 'asked' to leave the programme he/she has the right to appeal before a panel that usually includes the Dean, a consultant from another specialty (with ARCP experience), a local specialty representative and one from outside the region, and a trainee representative. They are allowed a friend or union rep to accompany them in the meeting, but not legal representation. The trainee prepares and submits their evidence and the specialty prepare their documentation also. The panels will then sit in judgment of the case and decide the outcome. The Gold Guide has chapters on all aspects of training and is well worth referring to for detailed information, the table of contents has clear headings, which makes it easier to search for the section you may wish to read.

Annual planning should take place after the ARCP assessment outcome is given. In the Gold Guide this is referred to as a separate meeting with the TPD. In practice, in anaesthesia particularly, because many ARCPs are conducted face to face, the planning discussion frequently follows the ARCP immediately. It should include the TPD but other trainers may also be present. The meeting should result in a plan to provide the trainee with the most appropriate training for the next year.

Susan Underwood
Royal College of Anaesthetists Bernard Johnson Adviser

THE FRCA EXAMINATION

Every trainee anaesthetist who aims to be a UK consultant needs to pass the two-part examination, set and supervised by the RCoA to obtain the Fellowship of the Royal College of Anaesthetists (FRCA) qualification, prior to achieving the CCT.

There are two parts to the FRCA exam; the Primary, sat during CT1–2, and the Final sat before the end of ST4. Both the Primary and Final consist of two parts, each taken separately:

Primary FRCA

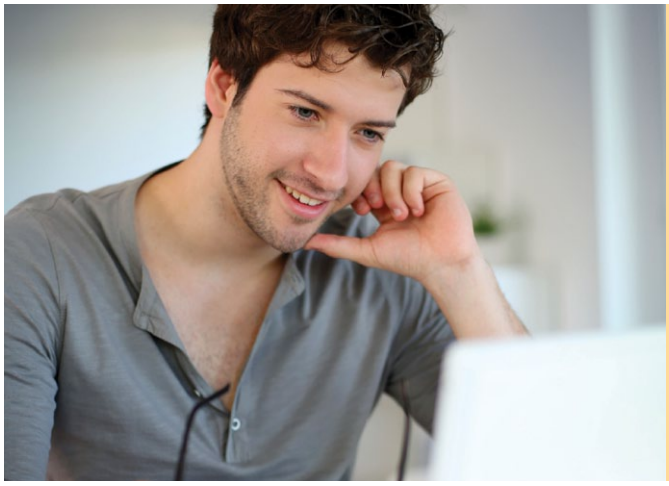
- The multiple choice questions paper (MCQ) which now includes Single Best Answers (SBAs)
- The Objective Structured Clinical Examination (OSCE) and Structured Oral Examinations (SOEs)

Final FRCA

- The MCQ paper (including SBA) and the Short Answer Question (SAQ) paper
- The SOE

In each academic year there are generally three sittings of the Primary FRCA examination and two sittings of the Final FRCA examination. The information about the regulations is available on the RCoA website and this should be checked prior to attempting the exam.

Eligibility criteria are clearly explained on the RCoA website, and we also recommend referring directly to this if there are any individual concerns about eligibility.



Preparing for the Primary FRCA

Preparation for the MCQ exam is best started by revising the topics in the syllabus from a standard textbook such as the Anaesthesia and Intensive Care A to Z [1] or Fundamentals of Anaesthesia [2]. The RCoA produce Primary and Final MCQ books, with example questions which have been known to appear in the exams. Many other MCQ books and CD-ROMs are also available for revision purposes. Reading recent review articles of topics included in the syllabus from the journals *British Journal of Anaesthesia*, *Continuing Education in Anaesthesia, Critical Care & Pain* and *Anaesthesia* can also be useful.

The OSCE is an assessment of clinical competence in the context of peri-operative care, practice and clinical skills. Practice is essential to pass this section of the exam. Prepare a list of potential topics from the previous examinations. Have a prepared plan to tackle common clinical scenarios. Practice interpreting ECG, X-rays, and machine checks in your daily practice with senior colleagues.

The SOE is an assessment of comprehension of facts previously tested in the MCQ exam. The knowledge expected is very similar to that needed for the MCQ, but the emphasis is on organising your thoughts and therefore your answer. It is vital to practice answering questions with consultants and other senior colleagues. It is best to start practising in exam conditions early to allow time to adjust to what is, for many, a new technique.

Preparation for the Final FRCA

The observations made regarding the MCQs and SOEs for the Primary exam are valid for the Final exam, with the caveat that there is an emphasis on clinical medicine, anaesthetic management of patients with comorbidities and common problems in intensive care.

The SAQ is an assessment of your ability to organise thoughts and your time management when dealing with scenarios from everyday clinical practice. With 12 SAQs to endure in three hours, the average time for each question is only 15 minutes. It is worth spending a couple of minutes planning the answer – content and layout (tables, labelled diagrams) to achieve decent answers. This leaves you only 10–12 minutes to write an answer, therefore use short and snappy titles, bullet point content with well-spaced text and paragraphs. All questions have to be attempted to pass the exam. The ideal way to prepare for the SAQ is timed practice of the previous year's questions. The difficulty of the SAQ section of the exam is best appreciated by attempting four SAQs in an hour and having a senior colleague critically assess the answers. As with the other sections in the exam, a comprehensive knowledge base is vital for smooth sailing. A SAQ course nearer the exam will help focus thoughts further and give plenty of chance for improving exam technique.

The clinical SOE in the Final exam evaluates your clinical judgment based on your knowledge, i.e. what an anaesthetist does in everyday medical practice. The emphasis is on safe and competent clinical care of patients undergoing anaesthesia, hence the quote 'don't change your daily practice for the exam' is valid. The clinical science SOE is a scaled-down version of the Primary SOE, with an emphasis on clinical application of the drugs, equipment and anatomy with relevance to regional anaesthesia, and medical statistics.

Conclusions

The FRCA examination is an essential requirement for career progression in anaesthesia and is a challenging task that requires a solid six months of revision to cover the vast syllabus. This is an understandably stressful time, made easier by planning and starting early. Plan the sitting a year ahead to have adequate revision time, collect revision resources, book the courses that you want to attend (most good courses are oversubscribed) and organise study leave and life in general! Remember there is no rationale for a trial run.

(Derived from 'Exam Update' by Dr M Shankar Hari, GAT Handbook 2008-2010)

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CORE TRAINING

Basic level training in anaesthesia is uncoupled and comprises two years of focused training and assessment in basic clinical skills and fundamental theories of anaesthesia. In Wales, it is a three year programme.

Core training – Year 1 (CT1)

Year 1 is usually undertaken in a district general hospital, and begins with an initial 3–6 month 'novice' period. During this time, each trainee has 'on the job' consultant-led teaching in order to gain the fundamental clinical, practical and theoretical competencies required to practice independently and safely participate in an on-call rota.

Each trainee is allocated an Educational Supervisor and a College Tutor is present in every department to update, support and offer guidance.

Initial competencies include:

- Basic airway skills
- Basic principles of anaesthesia
- Pre-operative assessment
- Induction and maintenance of anaesthesia for spontaneously breathing patients
- Induction and maintenance of anaesthesia for intubated patients
- The Rapid Sequence Induction
- Principles of the shared airway
- Introduction to acute pain and regional anaesthesia
- Clinical judgement, attitudes and behaviour
- Critical incidents and management
- Safe provision of anaesthesia for ASA I and ASA II patients
- Workplace-based assessment tools:
    - Anaesthesia Clinical Evaluation Exercise (A-CEX): 5
    - Case Based Discussion (CbD): 8
    - Direct Observation of Procedural Skill (DOPs): 6

On completion of a successful novice period, including a minimum of 19 workplace-based assessments, an Initial Assessment of Competency Certificate (IACC) is awarded. This deems the trainee safe to practice with some autonomy for appropriate cases with Consultant guidance.

The remainder of the first year of training focuses on gaining more experience and confidence, building on the knowledge and skills outlined above, and preparing for the FRCA Primary Examination.

The FRCA Primary MCQ exam may be taken by any anaesthetic/acute care common stem trainee. The IACC is required by the RCoA on applying to sit the FRCA Primary SOE.

In order to progress to year 2 of core training, attendance at a regional ARCP is compulsory. Progress and achievements are evidenced by an ARCP report (completed by an educational supervisor) and a trainee e-portfolio, which should typically include:

- Anaesthetic logbook summary
- Teaching logbook
- Audit
- Courses
- Work-place based assessments: DOPs, Anaes-CEX, CbDs and ALMATs
- Multisource feedback

CORE TRAINING

During core training, the trainee will also undertake a three month intensive care medicine attachment to obtain basic level competencies in intensive care medicine. More specialised units of training, including obstetric anaesthesia, are usually accomplished in year 2.

Core training – Year 2 (CT2)

The main aim of year 2 is to obtain the Basic Level Training Certificate (BLTC). For this to be issued, trainees must demonstrate basic level competencies in anaesthesia, intensive care medicine and obstetric anaesthesia. To progress to intermediate training the FRCA Primary Examination must be passed. This is a difficult exam, and preparation time should not be underestimated. It is standard to allow 4–6 months of intensive revision in order to cover the diverse syllabus.

It is important to stress that progression in anaesthesia is competency-based, and therefore any trainee who has been unsuccessful in gaining all the required objectives may be offered up to one year of extra time in core training. It may also possible to arrange an out of programme experience, usually clinical or research based, as a CT3.

Useful tips

- Membership of the RCoA is mandatory at the beginning of the training period
- Membership of the AAGBI is encouraged
- Logging applications are available for mobile phones, which allows timely logbook record keeping
- Courses for the FRCA Primary exam are usually of a very high standard and are offered by most Deaneries. The majority of trainees find these very helpful, and indeed essential for the OSCE/SOE component. Trainees should book revision courses early as places are competitive
- e-Learning Anaesthesia (e-LA) is an excellent online resource to aid FRCA revision, utilising 20 minute e-learning sessions, complete with self-assessment
- Simulation courses are great fun

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ACUTE CARE COMMON STEM

The acute care common stem (ACCS) is a three year training programme, and is an alternative core training programme for those wishing to undertake higher specialist training in anaesthetics.

It should be noted that nomination of your parent specialty must be made on entering ACCS. However, there may be the scope to change this depending on availability within the LETB. There are several routes of entry into ACCS - the most frequent being:

- Entry into ACCS Year 1 from Foundation Year 2 (FY2)
- Entry into ACCS for trainees with a combined total of less than 18 months experience in any of the four ACCS component specialties at SHO/CT1/CT2 level
- Entry into ACCS from Core/Higher Training in a non-ACCS specialty

The first two years of the programme involve rotating through emergency medicine, acute medicine (six months each) and then anaesthetics and intensive care medicine (one year in total, with a minimum of three months in each). The third year is spent in the parent specialty, and in the case of anaesthetics is equivalent of a CT2 in anaesthesia.

For those undertaking anaesthetics as their parent specialty, the ACCS programme brings a number of benefits. It gives a broader base of clinical skills and experience prior to starting your anaesthetic career, and also a better understanding of the other clinical specialities with which you will be closely working over the course of your training and working life.

With regard to anaesthesia examinations, it is expected that trainees will have passed the Primary FRCA MCQ assessment prior to entering CT2 anaesthetics, i.e. by the end of the first two years ACCS. The full Primary examination must be passed prior to entry into ST3 anaesthetic training.

The RCoA has issued advice on examinations – 25% of ACCS (anaesthesia) trainees will not start their anaesthetic module until the final six months of the two year ACCS course and therefore are not obtaining the Initial Assessment of Competence in Anaesthesia (IAC) until 22 months into their two year ACCS training. This could limit the opportunities such trainees have to sit the Primary FRCA Examination. To address the problem, the RCoA Council has agreed to allow any registered trainee to apply to sit the Primary FRCA MCQ examination as soon as they start an approved training post in anaesthesia or ACCS. This replaces the previous regulation that a trainee must have passed the IAC before applying to sit the MCQ examination. However, it is strongly recommended that College Tutors advise their trainees not to attempt the MCQ exam before they have obtained their IAC.

There are of course workplace-based assessments for each sub-section of ACCS, the details of which I will not go into, but are varied from Deanery to Deanery, and specialty to specialty.

There is now a new 2010 curriculum for ACCS which is overseen by the Intercollegiate Committee for Acute Care Common Stem Training (ICACCST) and the RCoA website is helpful. The *BMJ* careers article by Muhummad Sohaib Nazir on the acute common stem pathway is also worth reading.

Jon Walker
StR 7 Emergency Medicine

DEVELOPING YOUR CV FOR...

"Patients need good doctors. Good doctors make the care of their patients their first concern: they are competent, keep their knowledge and skills up to date, establish and maintain good relationships with patients and colleagues, are honest and trustworthy, and act with integrity and within the law."

Good medical practice 2013, General Medical Council

BARIATRICS

The term 'bariatric' originates from the Greek root 'bar' meaning weight, and the suffix 'iatr' meaning treatment. It therefore refers to the psychological, dietetic, medical and surgical treatment of the obese patient. It is not a polite substitute for the word, 'obese'!

Due to the limited sustained success of traditional methods, such as diet and lifestyle modification, for the treatment of obesity and the epidemic of obesity overtaking the western world, the subspecialty of bariatric surgery has become firmly established in recent years in an attempt to reduce the increasing waistlines of our population. Statistics for England in 2012 suggest that 24.4% of men and 25.1% of women now have a body mass index (BMI) greater than 25 kg/m2, i.e. obese. This epidemic looks set to continue despite national initiatives to reverse the trend.

Studies have shown that weight loss of 5–10% of initial body weight can improve glucose intolerance, incidence of type 2 diabetes mellitus, hypertension, and hyperlipidaemias. Bariatric procedures may achieve weight loss of more than 50% of excess weight. Bariatric surgery is relatively safe, has low morbidity and mortality, and can provide long term sustained weight loss with significant improvement of comorbidity and quality of life in the morbidly obese patient. NICE guidelines suggest the main requirements for approval of weight loss surgery is a BMI of 40 or over. A patient can also be considered for surgery if their BMI is between 35 and 40 and it can be proved that after surgery any existing medical conditions can be improved. The types of medical conditions that surgery can effect are type 2 diabetes mellitus, heart problems, high blood pressure, infertility and sleep apnoea, to name a few. Another requirement that needs to be met is evidence that the patient has attempted to lose weight through all means possible and that these attempts have been unsuccessful.

Bariatric surgery has developed rapidly over the last few years and is now one of the fastest growing areas of surgery in terms of patient numbers. Patients can be offered a range of surgical options depending on their individual circumstance and underlying comorbidities. The options include adjustable gastric bands, gastric bypass and sleeve gastrectomy procedures. Surgical techniques have continued to develop such that these procedures are now predominantly carried out laparoscopically.

Bariatric anaesthesia has developed alongside the surgery as a subspecialty. The safety record of bariatric surgery (gastric bypass mortality 0.5% and laparoscopic band 0.1%) is partly due to the allocation of experienced anaesthetists to these lists and partly due to a multidisciplinary team approach including psychologists, dieticians and endocrinologists.

In truth, any major case-competent anaesthetist could be a bariatric anaesthetist as many skills are transferable, specifically management of the pneumoperitoneum. There are however a few areas that require special attention. These include the management of peri-operative obstructive sleep apnoea/obesity hypoventilation syndrome, assessment of cardiovascular function with awareness of obesity-related pathology with the use of intra-operative cardiac output monitoring, manual handling and positioning to avoid airway, ventilation and pressure-point problems, knowledge of pharmacokinetics in the obese, and appropriate thromboprophylaxis.

With the increase in obesity in the general population all disciplines of surgery will find an obese patient on their elective and emergency lists. This means that all anaesthetists will have to manage the obese patient at some point and the basic principles for bariatric surgery will apply to ensure a safe peri-operative journey.

What does work as a bariatric anaesthetist involve?

The key to delivering safe bariatric anaesthesia for bariatric surgery is prior planning, an appreciation of the comorbidities the patient may have and application of basic principles. Anaesthesia for bariatric surgery in itself can be challenging but with the ever-increasing size of our population, anaesthetists will find the obese patient across a whole range of surgical disciplines. This presents an opportunity to apply the principles of bariatric anaesthesia to the everyday theatre list but also exposes the inexperienced anaesthetist to the complexities of this surgical population.

Training in bariatric anaesthesia

Anaesthesia for bariatric surgery or for the obese patient is only sparingly mentioned throughout the RCoA Curriculum for CCT in Anaesthesia 2010. You may also be working in a centre or region that does not carry out bariatric surgery. Therefore, as a trainee, there are various options to gain experience in this growing field of anaesthesia other than the random encounter with a morbidly obese patient in a district general hospital.

Improving your CV for bariatric anaesthesia

Consultant job adverts are now appearing 'with a special interest in bariatric anaesthesia', so trying to develop your CV early may pay future dividends if this is an area of anaesthesia you enjoy.

Several out-of-programme or additional training bariatric fellowships exist across the country; however, they require prior planning and preparation, much like bariatric anaesthesia! You may also consider arranging a 'taster' or 'observership' attachment in a centre of your choice. Contact the centre in advance; these attachments are usually easier to arrange and the time can be taken as study leave.

Joining the Society for Obesity and Bariatric Anaesthesia (SOBA) has numerous benefits for trainees. SOBA has been an AAGBI affiliated society since late 2008 and aims to educate and support anaesthetists involved in bariatric anaesthesia. SOBA runs two educational meetings a year aimed at the consultant or senior trainee embarking upon bariatric practice. SOBA runs a poster competition at the annual scientific meeting. This is a golden opportunity for anyone interested in bariatric anaesthesia, or obese patients, to present at an international meeting.

The SOBA committee recognises the significance of trainees and has two trainee representatives appointed to it annually. SOBA provides a valuable source of information and also a discussion forum via its website and Twitter.

Some useful resources and further reading can be found below:

- Health & Social Care Information Centre. *Statistics on Obesity, Physical Activity and Diet - England*, 2014. http://www.hscic.gov.uk/catalogue/PUB13648
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ST5 Anaesthetics, Birmingham School of Anaesthesia
GAT Committee Elected Member

Sean Chadwick
Consultant in Anaesthesia and Intensive Care, Worcestershire Acute Hospitals NHS Trust

Mike Margarson
Consultant Anaesthetist and Director of Intensive Care, St Richard's Hospital Chichester
Vice Chairman, SOBA

Claire Nightingale
Consultant Anaesthetist, Bucks Healthcare NHS Trust
Ex-Treasurer, SOBA

CARDIOTHORACICS

Cardiothoracic anaesthesia and intensive care is an exciting, challenging and dynamic specialty choice. It is certainly not 'service provision' anaesthesia and requires a specific and unique set of skills. A career choice in the specialty means you will be at the forefront of anaesthetic, surgical and technological advances.

In the last 10–20 years we have seen a number of changes in the patient population including an increase in the number of patients, an increase in the age and comorbidity of patients and an increase in the complexity of our procedures. However, this is coupled with an improvement in outcome and mortality and a decrease in hospital stay. Our patients are the most audited group in medicine pushing a continual drive to improve our practice. We have also seen the development of cardiology procedures, particularly arrhythmia therapy and transcatheter aortic valve implantation (TAVI) procedures, and the increase in minimally invasive thoracic surgery. The technological developments have been instrumental in the success of the specialty. We have led the way in peri-operative echocardiology (echo), both transoesophageal (TOE) and transthoracic (TTE). We have seen improvements in cardiopulmonary bypass techniques and the reduction in the use of blood and blood products in cardiac surgery with the development of cell salvage, synthetic clotting agents and point of care testing. There have also been considerable advances in mechanical cardiorespiratory support such as extracorporeal membrane oxygenation (ECMO) and ventricular assist devices.

The RCoA Curriculum for CCT in Anaesthesia 2010 lays out the requirements for training. Cardiothoracic anaesthesia is one of the seven essential units for intermediate level training in ST years 3–4 and one of the five for higher training in ST years 5–7. However, in each case, the minimum requirement of four weeks is really only a taster to allow trainees exposure to the issues and management of patients with cardiothoracic disease. Cardiothoracic anaesthesia is also one of the eight advanced units of training in ST years 5–7 with a maximum of one year in a single unit or six months in each of two units. Many trainees looking for a career in the specialty will follow this with a further fellowship, which commonly takes place post-CCT. Advanced training is vital to any trainee wishing to pursue a career in cardiothoracic anaesthesia and it is essential that trainees gain a wide and varied clinical experience but also build a CV for consultant appointment.

How then does one build a CV to become a consultant in cardiothoracic anaesthesia and intensive care, and what will influence success?

Become a member of the Association of Cardiothoracic Anaesthetists (ACTA). ACTA was founded in 1984 to encourage the professional development of consultants and trainees. They hold an annual scientific meeting in the spring and an educational academy meeting in the autumn to further education, promote international links and encourage the presentation of original scientific research. ACTA is dedicated to its involvement in the curriculum development and training of cardiothoracic anaesthetists and intensivists. For the trainee wishing to pursue a career in the specialty, ACTA is an invaluable resource providing career advice and networking, academy and educational meetings, a comprehensive list of courses and workshops in echo, one lung anaesthesia and all aspects of cardiothoracic anaesthesia. Their website also provides a source of educational material. ACTA has recently established a trainee representative position on the committee as a direct link between the organisation and interested trainees.

TOE imaging is now a central component of cardiac anaesthesia and evidence of training and experience in TOE is essential for your CV. This should consist of formal TOE certification and accreditation. In the UK there is currently an accreditation process run by the British Society of Echocardiography (BSE) consisting of an exam (two MCQ papers) and logbook submission of 125 cases over two years. Accreditation is also possible through the European Association of Cardiothoracic Anaesthesiologists (EACTA) or the National Board of Echocardiology (NBE) and Certification from the American Society of Echocardiography (ASE)/Society of Cardiovascular Anaesthesiologists (SCA). TOE accreditation requires not only time to study for the exam but access to sufficient patients to undertake the required number of examinations, and the latter may be difficult to achieve unless you do a full year of advanced CCT training and probably post-CCT fellowship.

During or before entering advanced training or post-CCT fellowships, an introduction to TOE can be gained by attendance at one of the many TOE courses run by cardiac centres in the UK. A list can be found on the ACTA website. Both EACTA and the SCA also run annual foundation courses in TOE and there are an increasing number of meetings in the UK devoted to TOE. Attendance at these courses and meetings would strengthen your CV. Registrar's case presentations are also now a regular part of the ACTA echo meetings and such a presentation would look good and get your name and face known in the ACTA community.

Evidence of training in TTE is desirable, especially if applying for a post with sessions in critical care. Focused intensive care echocardiology (FICE) accreditation can be completed during a 6-month placement on intensive care. On commencing the module the trainee must register with the intensive care society (ICS) and identify an approved mentor. They must then attend a FICE-approved basic echo workshop and collect a logbook of

50 cases over a one year period followed by a final 'triggered assessment' by their mentor. Other 'focused' echo courses such as FEEL-UK (focused echo in emergency life support) or ICE-BLU (intensive care echo and basic lung ultrasound) are available. The BSE and ICS working group has also defined criteria for advanced accreditation in critical care TTE comprising of a written exam and a logbook of 250 reports. This is not an essential requirement but would certainly allow you to stand out, especially if applying for a cardiothoracic intensivist post.

In the past, research experience, especially with publications in reputable scientific journals, would have been a core characteristic of a successful applicant. While it remains a feature of an outstanding candidate, it is generally recognised that the opportunities for undertaking research during CCT training are now much more limited than in the past and is not essential for a successful application. However, scientific presentations, now often based on audit rather than research, at specialty meetings such as ACTA or EACTA remain an important feature of a successful applicant's CV. Co-authoring a book chapter or a review may be more readily achievable, as it can be done flexibly in one's own free time and will make an applicant's CV stand out, especially if they are about cardiothoracic anaesthesia. Ask your senior colleagues if they have any opportunities available in these areas.

While not essential, clinical experience in cardiothoracic anaesthesia gained in more than one centre is desirable. Training in a single centre has the potential to narrow one's clinical outlook and exposure to more than one centre can lead one to question some anaesthetic dogma and, alternatively, reinforce the relevance of another. In addition, it gives insight into different approaches to delivering the same healthcare, which may be valuable when service reconfiguration occurs in your future career. Furthermore, experience in specialised centres may benefit your CV, for example those offering ECMO, heart failure treatment and heart and lung transplant centres. Undoubtedly, valuable training will be gained in all the UK cardiothoracic centres, but experience in other countries, such as the USA, Canada or Australasia, adds to your CV. While this may be possible as an out-of-programme experience during CCT training, it seems more likely that working abroad will be an experience that can only realistically be obtained post-CCT.

As with most consultant posts in anaesthesia, what a selection committee will be looking for on your CV is the added value that you will contribute to the department, over and above your clinical skills. Teaching and management experience are two common areas that may be valuable to a department and hospital, and that does not mean supervising junior colleagues and running a trainee rota. Like TOE, some formal qualification such as a Certificate in Medical Education would be ideal for teaching, but perhaps unrealistic for everyone to achieve during training in anaesthesia. However, evidence of interest should be demonstrated by attendance at teaching or management courses. Consider participating in undergraduate teaching. Supervising problem-based learning is a good way into undergraduate teaching, as it is now an important component of the undergraduate curriculum of many medical schools. Because it is taught in small groups a large number of tutors are needed. In addition, the output of such teaching can often be presented at a scientific meeting and even result in a published paper. Again, ask your senior colleagues if they would be interested in sharing their teaching commitment in this area or have suggestions for other appropriate teaching. Acting as faculty on in-house courses is also an easy way to gain teaching experience. Courses such as advanced life support (ALS), advanced trauma and life support (ATLS) and care of the critically ill surgical patient (CCrISP) are ideal but there are specific cardiothoracic courses such as cardiac advanced life support (CALS) that you can get involved with during advanced training.

Cardiothoracic intensive care is an ever-expanding specialty that has undergone many significant changes and developments in the last 10 years. The increasing age and comorbidities of our patients together with aggressive and innovative surgical and cardiology techniques and the expansion of ECMO, mechanical assist devices and transplantation services has significantly increased the workload. This, together with the developments in the wider field of intensive care, has forced a review process of how cardiothoracic intensive care is delivered and now there is increasing recognition of cardiac intensive care as a subspecialty area. In most centres there has been a shift from the traditional surgical-led recovery unit to an intensivist-led specialist critical care unit. Although in 40% of units around the UK there is now a separate on-call rota for cardiac intensive care and theatre anaesthesia, an overlap still exists. It remains a substantial part of many cardiothoracic anaesthetists' job plans and the majority of cardiac intensivists will still also have some sessions in cardiothoracic anaesthesia. The cardiac intensivists in ACTA (CIA) group was established six years ago to improve clinical quality, training, education and promote research and audit in cardiothoracic intensive care. This group is working closely with the faculty of intensive care medicine (FICM) to develop the field. At present, a dual CCT in anaesthesia and critical care is not essential but those who wish to be involved in the delivery of both services in the future should consider this training pathway. As a minimum, intermediate training in intensive care medicine should be obtained with experience in cardiothoracic intensive care during advanced or post-CCT specialty training.

Without doubt, paediatric cardiac anaesthesia is a super subspecialisation. Currently, there is considerable debate about what training should be required for a consultant post. Clearly anyone who is going into paediatric cardiac anaesthesia needs to have a sound training in both cardiac and paediatric anaesthesia. Given the complexity and current lack of clarity as to the training requirements, anyone interested in a career in this area should seek out specialist advice early in their career to know how to develop the relevant experience and hone their CV. The CCT in the anaesthesia curriculum also advises that pre-CCT training for such posts has to be arranged on an individual trainee basis in conjunction with the medical secretary and training committee to ensure it complies with the requirements of a training programme leading to CCT.

A career in cardiothoracic anaesthesia is both challenging and enjoyable. Don't be put off by the extra training and exams. If you think you may be interested in cardiothoracic anaesthesia it would certainly be advisable to spend a bit of time in the specialty early in your training. The training you will receive will certainly not go to waste, with the ability to manage high-risk patients, hone communication and teamworking skills and develop advanced procedural, echocardiography and lung isolation techniques. All of which are very valuable and desirable skills in any field of anaesthesia or intensive care.

Good luck in whatever you choose to do!

Jo Irons
Consultant, Papworth Hospital

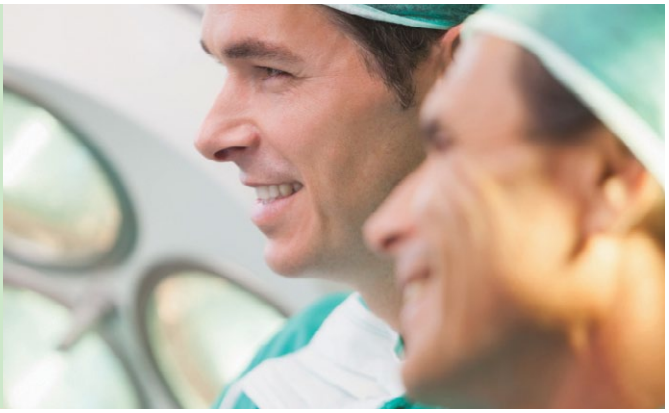
In the last few years, elective surgery has undergone a revolution with the introduction of minimally invasive techniques meaning that traditional lengths of stay are falling. This is evident with the development of the national Enhanced Recovery Programme where patients having major procedures such as joint replacements or hysterectomy who previously needed up to a week of postoperative recovery in a hospital ward are now going home after two or three days. In the same way, operations that traditionally needed one or two days care have moved into the day surgery arena, and much that currently takes place within day units is moving into outpatients or soon, even into the community.

We are already seeing examples of this, with hysteroscopy and female sterilisation increasingly being carried out as an outpatient procedure and 'traditional' diagnostic arthroscopy being replaced by MRI scanning. Laparoscopic cholecystectomy, tonsillectomy and shoulder arthroscopic surgery are now commonplace as day case operations, with some hospitals in England now performing up to 70–80% of them on an 'ambulatory' basis. But did you know that units in the UK are already doing thyroid [1] and parathyroid [2] surgery, prostate resection [3] and even laparoscopic nephrectomise [4] as day cases? There is no doubt that anaesthesia for short stay surgery will form an increasingly important part of most anaesthetists' lives. It has been shown that day surgery can account for 75% or more of elective general surgery in the average district general hospital, if we then look at what is left then at least another 20% can be dealt with on a 23-hour basis. Furthermore, only a minority of patients require a hospital stay of longer than 48 hours.

Currently, many hospitals are looking to streamline these patient flows, as patients managed through designated day surgery and 23-hour stay surgery areas have a better chance of going home at the right time, with the right drugs and with appropriate information for their carers.

What would your life be like as a consultant?

This depends on the mix of lists and management duties that you have. The best day surgery units have one thing in common and that is medical leadership; across the country, anaesthetists are recognised as individuals with the expertise and knowledge to optimise a 'joined up' day surgery pathway that includes pre-operative assessment, development of appropriate guidelines for anaesthetic care, liaison with surgeons across a wide range of specialties, and working as a team member with nursing and managerial teams. Even if a day surgery unit is managed by a surgical colleague, most have an anaesthetist leading the pre-operative assessment service, so if you show interest, there are opportunities to develop your management and teamwork skills. Managing day surgery can be extremely satisfying as it involves working across all specialties to ensure the provision of a quality service; the main secret is to ensure that it does not feel like a production line for the large numbers of patients treated.



Those you work with heavily influence your life as a consultant and those involved in day surgery are a dedicated cheerful bunch. The best lists are where the 'team' includes the surgeon and anaesthetist as well as the rest of the staff – this may sound strange but I believe in day surgery we break down many of the 'traditions' in medicine. Hence, we all help getting the patients through efficiently and safely and remove the 'that's not my job' mentality.

Developing your CV

It seems that the British Association of Day Surgery (BADS) is one of the best kept secrets in anaesthesia. It is a multidisciplinary society and the members are nurses, anaesthetists, surgeons and managers. Anaesthetic trainees benefit from a reduced membership fee and the Annual Scientific Meeting held over two days each June is a brilliant opportunity to learn more, socialise, network and gossip with like-minded folk.

My first recommendation to anyone wishing to establish their credentials in day surgery would be to join BADS and attend this meeting. However, even better would be to submit an abstract and try to get an oral presentation or at least a poster accepted. The audience are extremely friendly and those presenting are not given a hard time. Learning which topics are popular at these meetings and so being successful with submitting an abstract takes preparation. This is best achieved either by working with a consultant colleague who has attended previous meetings and so knows the scene, or simply by attending one year to get a feel for how it all works. Listening to colleagues presenting their work gives insight to the competition but also fires you up and gives you ideas for the following year. The BADS website is a useful source of day surgery information and offers a discussion area where you can ask questions. It also offers a wealth of additional resources in the members area that is invaluable for anyone with a commitment to day surgery.

In preparation for a consultant post that includes a day surgery component, it's also very useful to have a few relevant audits on your CV showing your interest in this area of anaesthetic care. Within the latest edition of the RCoA *Compendium of Audit Recipes* is a section on Day Surgery providing a few examples of tried and tested work that you could use in your own hospital.

Training in day surgery forms part of the essential training units in the CCT in anaesthetics higher level training and is one of the options for advanced level training. Details can be found on the RCoA website. These documents provide guidance to trainers and trainees and are useful for those wishing to spend time within day surgery. The advanced level training document states that 'Advanced training in anaesthesia for day surgery should be delivered in centres with a dedicated day surgical unit with a designated director/lead clinician who has sessional commitment to the role'. It goes on to say 'It is recommended that between three and six months are spent on this advanced unit of training. While mastery in clinical skills will be achieved, much of the benefit gained from this unit of training will be in developing leadership and management skills related to the organisation of a day surgery unit, in conjunction with all other members of the multidisciplinary team'.

These ideals may still be some way from being met and provision of dedicated training time within the day surgery arena often proves difficult. However, continued pressure from trainees will help ensure that suitable time is allowed for such attachments. BADS has links via the International Association for Ambulatory Surgery with exemplary Day Surgery Units across the world and would be happy to provide contacts for anaesthetic trainee members, should you wish to try and organise time out from CCT to visit or work at an international centre of excellence.

Overall, there is no doubt that any consultant post you apply for over the next few years is likely to have a day surgery session

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or two within the job plan. What better way, therefore, to start preparing your CV for the 'dreaded' final interview, showing that you have the credentials, knowledge and expertise to offer something special to your potential employers? What's more, working in the Day Surgery environment provides one of the most unique clinical challenges to use state of the art evidence-based techniques of anaesthesia to ensure rapid recovery and street fitness within hours with a multidisciplinary team who are renowned for their support and 'let's get it done' ethos.

I hope that I have provided some useful insights within this article, however if you require further information or feel that I have left a question unanswered then please contact me via BADS (bads@bads.co.uk).

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ENT, HEAD AND NECK, AND DIFFICULT AIRWAY

The 'head and neck' specialties of ENT and maxillofacial surgery are increasingly being identified in job descriptions as specific subspecialty interests. Patients and the types of surgery involved are hugely variable and range from otherwise fit and healthy young people undergoing functional and aesthetic procedures, to the elderly and medically compromised requiring extensive surgery for cancer. Major head and neck surgery may typically demand anaesthesia to suit the delicate haemodynamic requirements of free-flap construction while at the same time accommodating intermittently stimulating bone and soft tissue resection. The skill mix required of the anaesthetist also takes account of the fact that not only the proximal airway, but in many cases (laryngeal surgery), the distal airway is shared with the surgeon. Airway management is often difficult from the outset because of pathology or previous surgery. The types and complexity of airway surgery taken on by hospitals depend largely on their size and whether or not they actually have ENT and maxillofacial surgery departments. The skills to deal with a difficult airway may nevertheless be called upon at any time in any hospital. Departments of anaesthesia must therefore have enough consultants to be available who can plan safe treatment for, and deal with, such cases. The 4th National Audit Project of the RCoA goes far to emphasise this.

Adequate members of staff specialising in advanced airway management must also be available to train others. Moreover, the RCoA now recognises the need for airway-lead clinicians who should be responsible for ensuring that departments are stocked with appropriate airway management equipment and have local guidelines which are consistent with current national recommendations. In teaching hospitals and larger district general hospitals where consultants regularly manage complex major ENT and maxillofacial patients, it is natural for these same personnel to take on the above roles. That said, those working in other specialised areas of anaesthesia may regularly be involved in difficult airway management and in particular, those in paediatric anaesthesia and neuroanaesthesia.

With an interest in head and neck anaesthesia there is the potential for a very stimulating consultant career, particularly if your job plan incorporates a degree of flexibility. Each week's lists might include ENT, maxillofacial and dental surgery, often involving elements of paediatric anaesthesia, anaesthesia for day surgery and anaesthesia for complex major surgery. As the airway is shared, surgeons take a particular interest in your skills and if you are involved in the management of major head and neck reconstructive surgery then this interest extends even further. A sense of belonging always seems to develop in head and neck theatre teams.

Once identified as someone with difficult airway skills you might be called on to assist other members of your department with complex cases; a situation which calls for a cool head and an agreed plan of action. Your support will also be needed by nursing staff in pre-operative assessment and sometimes by the multidisciplinary team caring for patients with head and neck cancer. Not only can you provide support but there also exists the possibility to shape services.

Aside from direct clinical work there is still much to do. Airway equipment requires organising and maintaining, trainees and other members of the department require airway training, guidelines and protocols must be written and airway practice requires auditing. It is also important to maintain your own skills through local, regional or national airway courses and through attendance at the annual meeting of the Difficult Airway Society (DAS). Some regions have also formed their own airway groups whose meetings provide a good forum to discuss current airway issues.

It can clearly be seen that life in head and neck anaesthesia is very fulfilling. If you also incorporate other branches of anaesthesia into your job plan then your working life will never be dull.

Developing your CV

Since the introduction of the 2010 curriculum for a CCT in anaesthesia, post-FRCA trainees are required to do a further period of training in difficult airway management. This is included in the General duties essential unit of Advanced training and is mandatory. Also included in the 'general duties' unit is further training in ENT, maxillofacial and dental anaesthesia which, though not obligatory, is obviously desirable, if not essential, for anyone looking to incorporate a regular commitment to head and neck surgery into their work. Approximately one in three schools of anaesthesia offer fellowships in advanced airway management for senior trainees of between 3–12 months duration. Advanced airway fellows have considerably greater opportunity to become practised in difficult airway techniques and to take on roles training others. These posts may also present the opportunity to become involved in airway management research but are usually, as with other specialist fellowships, subject to tough competition either internally or externally.

Regular attendance at airway meetings and courses are probably more readily attainable by the interested trainee. DAS was established in 1995 to further the development of difficult airway anaesthesia. Although not limited to those performing anaesthesia for major head and neck surgery, membership of the organisation is a good place to start for those aspiring to specialise in this branch of anaesthesia. The society has one academic meeting per year, usually in November, consisting of two days dedicated to lectures and presentations but also an extra day of workshops for teaching difficult airway skills. Difficult

airway courses are also now in abundance in most regions throughout the country. Many consist of workshops in which the use of equipment is taught on manikins, however there are now also a number of courses on which candidates may go on to practice awake intubation on one another. It goes without saying that anything trainees can submit to national or regional meetings whether in poster, abstract or verbal form will count for a lot when it comes to competition for posts later. Virtually anything from case reports to audits or research may be accepted. Airway audits are very easily planned and carried out, even in hospitals which do not take on major head and neck work on a regular basis. All hospitals have policies and equipment for the unanticipated difficult airway and such things make for easy yet important local audit material. Having sought as much experience as possible in techniques for the management of the difficult airway, the natural progression is then to get involved in the teaching of others. Anaesthetic trainees in hospitals of all sizes have an important role to play in the teaching of many groups of people, e.g. medical students, who need training in basic airway techniques as well as others, e.g. paramedics who require regular updating of their intubation competencies. Trainees in airway fellow positions are likely to have a wider involvement in teaching and instruction and may be involved in courses run by the RCoA, the AAGBI and DAS.

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INTENSIVE CARE MEDICINE

Why do intensive care?

Intensivists will give many different answers to this question. Personally, I most enjoy the opportunity to work as part of an energetic team of doctors, nurses and other professionals all focused on doing their best to save a patient's life at a time of absolute need. For others it is the combination of leading patient care and applying a wide variety of treatments in a complex environment where patients can, and do, respond very quickly.

The intensive care unit has now become the centre of the hospital with an ever-increasing percentage of total hospital beds. The modern hospital cannot function without an effective unit that is able to support its referring clinicians to deliver radical treatments to an ageing population with multiple comorbidities and sometimes profound physiological compromise. Most intensivists enjoy the opportunity this provides to interact with specialists from all parts of the hospital; from cardiologists to oncologists, obstetricians and surgeons. There is no hospital specialist who does not at some point need to seek intensive care assistance and the intensivist must similarly be prepared to visit all corners of the hospital. This all offers great potential for future career development particularly in hospital management. Boredom is never a problem; indeed the ability to cope with uncertainty and the late unpredictable referral is vital!

In common with anaesthesia there is a focus on physiological safety, attention to detail and the ability to undertake practical procedures skilfully. However, bedside diagnostic skills are also required if the multiple physiological and pharmacological treatments available are to be applied appropriately and successfully. As a result, skills in echocardiography and ultrasound are now becoming essential.

One of the highlights in intensive care medicine (ICM) is the interaction with patients and their families. All walks of life are represented and good communication skills are essential, as your words will be remembered for many years. Providing continuity of ICM in weeks or blocks of days facilitates this communication and also enables an improved level of patient care to be delivered. As such, consultants in ICM often work a rota with a full week on the unit away from other duties followed by a number of weeks with less input in to the unit with their skills utilised in other parts of the hospital. It can be guaranteed that well trained consultants in ICM will continue to be in great demand as the specialty is continuing to expand. The Faculty of Intensive Care Medicine website is a useful resource.

What are the negatives?

Intensive care units are increasing in size, which has enabled on-call frequency to reduce as consultant teams expand. However the demands on 'out of hours' working are inexorably rising, with morning and evening ward rounds seven days a week now as standard practice. You are very likely to be called at night as intensive care has become a consultant delivered service, although the necessity to attend does depend on local on-call arrangements and the adequacy of middle grade cover. Resident intensive care consultants may become necessary in the future, but at present this is rare.

All of this has led to the perception that intensive care is such hard work that intensivists will 'burn out' during their career. The emphasis on robust job planning has changed this, but the reality is intensivists now spend more of their contracted time outside normal working hours. As this counts as 'time and a third' they should have more non-clinical time during the week. This provides a great opportunity to get involved in education, training, management or research.

Training in intensive care medicine

Since 2012 it has been possible to train in the specialty of ICM alone. However, programmes have been developed to enable and encourage trainees to train in ICM in partnership with a range of specialties. While anaesthesia and ICM has been the most popular combination historically, it is now possible to train in ICM with acute medicine, respiratory medicine, emergency medicine or renal medicine. But trainees should only train in two specialties if they are fully committed to both of them because posts for consultants with single CCT ICM will become more common in the future.

As a foundation doctor there are rotations that include an opportunity to work in ICM, which gives an excellent opportunity to experience this career before committing to it. Most trainees who are seriously thinking of a career in ICM at this early stage should consider a post in an ACCS programme. However, this is by no means essential, because the ICM programme has been specifically developed to enable trainees to enter directly from a core medical, core anaesthetics programme or equivalent. There is no core programme aimed solely at a career in ICM with the programme entry being at ST3. During core training you should complete and retain any evidence of competencies which would be relevant should you be appointed to the CCT ICM training programme. At present it is not possible to commence the ICM e-portfolio until you begin ICM training. Do therefore look at the assessment system for the CCT in ICM during your core training.

Entry to the ICM programme itself is via a national selection and interview process held once a year in April, with a separate selection process necessary for partner specialties of dual CCT training. Two years post foundation training must have been satisfactorily completed, along with the requisite exam necessary for completion of the first two years of training, e.g. Primary FRCA, MRCEM or MRCP(UK).

There is, at present, a staggered approach to appointment to dual CCT ICM training with a necessity to be appointed to the two programmes independently at separate rounds of recruitment. You cannot commence ICM dual training later then the end of ST5.

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Training in ICM is still an essential part of the seven year training programme in anaesthesia, with all anaesthetic trainees undertaking a minimum of nine months ICM, and with many gaining more ICM experience than this. Advanced training in ICM within a CCT in Anaesthesia still remains possible. Trainees are strongly advised to check the latest training arrangements on the FICM website as the routes of entry into ICM at ST3 are liable to change.

The ICM training programme

ICM is a seven year programme in total, of which two years are completed prior to entry at ST3 level.

The ICM programme is split into 3 stages:

- **Stage 1 ICM training** is complete after a minimum of four years training during which every trainee must complete one year ICM, one year anaesthesia, one year medicine (of which 6/12 can be emergency medicine) and another year of any of these specialist areas. This time can include training time spent in a core programme prior to being appointed to the ICM programme
- **Stage 2 ICM training** consists of a specialist ICM year (neuro, general, cardiac and paediatric intensive care) and a year during which a range of special skills can be further developed, e.g. research, cardiology, paediatrics, education. Dual trainees will undertake training in their second specialty instead of a special skills year. The prerequisite to enter Stage 3 ICM is the completion of the Fellowship exam of the FICM
- **Stage 3 ICM training** consists of a final year of general ICM during which the individual will be aiming to acquire all the skills required to be a consultant and should typically be working in a sub-consultant fashion.

The FFICM exam

The final FFICM exam was first held in January 2013 and has taken place every six months since then. Candidates for the final FFICM should have completed stage 1 ICM training and passed the MRCP, MCEM or Primary FRCA to be eligible. The final FFICM consists of a multiple choice exam paper that needs to be passed to sit the oral exams, which are made up of 13 OSCE stations and eight structured oral questions.

This exam is now compulsory for all trainees on the CCT ICM training programme. As a result, the numbers of candidates sitting the exam has increased, with about 160 individuals sitting the FFICM MCQ exam each year.

Less than full-time training

Less than full-time training in ICM has been gradually increasing, a trend that is set to continue with the changes to the ICM training programme and consultant job plans that are taking place. Less than full-time training must be applied for at LETB level and it is advisable to give your TPD as much notice as possible of your request. As all units have their own working patterns, trainees should tailor their job plan to accommodate their training needs and service commitment to the hospital, while ensuring continuity of patient care. Close liaison with the rota master is essential!

How can you secure an ICM training post?

The number of CCT ICM training posts in England and Wales has increased from 72 in 2012 to 137 in 2015 and is likely to increase further in 2016. There are an additional ten posts in Scotland, though not all of these are available through the national recruitment process.

When trainees applying for an ICM post are being considered, three key questions have to be asked; do they have a strong interest and commitment to the specialty, will they be good at it, and are they better than their competitors? The first two are vital; it doesn't matter how good you are on paper if you cannot reassure the appointments process that you have an enthusiasm and aptitude for ICM. Although assessing enthusiasm is subjective there is no substitute for evidence of enthusiasm spread over a period of time. Enthusiasm is something that a candidate's manner can and should convey, but enthusiasm without achievement is less convincing.

There is now a standardised application form followed by a series of interview stations at the national selection centre in Birmingham. The application form is anonymised and you are very unlikely to be interviewed by anybody with whom you have worked. As a result a carefully detailed application form and a good interview are the route to success.

It is well worth studying the application form a year or so in advance as there are many ways of improving your chance of success. While an additional postgraduate qualification, e.g. MRCP, is well worth achieving, it will take considerable effort over a number of years, compared with activities such as participation in a teaching programme, involvement in research or undertaking regular audits (with a critical care slant). Such things can often have just as big an effect on your shortlisting score. There are also sections within the application form for you to reflect on critical incidents, teamwork and patient care. Do ask colleagues and supervisors to look at your application form to ensure your responses are on the right track and English is clear. Finally as the scoring system is also standardised a rounded application form is vital, so do try hard not to leave any boxes empty!
You must then bring your portfolio to the interview as you will be expected to provide evidence to justify your application form.

The interview format consists of a portfolio review station, a presentation station and a clinical scenario station, with an opportunity to prepare for the presentation and the clinical scenario before meeting the assessor. In addition there are two 30 minute unmanned OSCE stations in reflective practice and task prioritisation in which written work is formally assessed once the work has been completed. You can be reassured that a selection process of this type is a more valid approach to selecting doctors well suited to ICM than a traditional interview approach.

The target competencies considered to be most important for ICM are communication, conceptual thinking, problem solving, time management, decision making, professional integrity, empathy, sensitivity, team working and managing others. If you can demonstrate competence in these areas you should do well.

A common misunderstanding is that references will carry a major influence in your chances of being appointed. It is important that these are good but more importantly they should be easy to obtain from referees because they are generally only read after any decision has been made when they have the power to veto any appointment.

In conclusion, if you are interested in ICM and can show your commitment to the panel you will be rewarded with a fulfilling career that will continue to interest and challenge you for many years to come.

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LEADERSHIP AND MANAGEMENT OPPORTUNITIES

Our NHS is clearly changing. We've all read the headlines: the most optimistic forecast predicts that an additional £8 billion per year will be needed to fund our healthcare system by 2020. The reasons behind this are multiple, but include the fact that healthcare is simply costing too much, compounded by an increasingly ageing population, further technological developments, and increasing patient expectations. It is realistic to assume that the NHS will not see any real funding increases for the foreseeable future, which represents a dramatic change for a service used to 3–7% increases year on year in the past. It sounds all doom and gloom, but there has been a shift in thinking over the years that doctors can have a real contribution to developing high-quality care in the midst of these huge financial challenges.

Across all hospitals, junior doctors and consultants, in particular, command great clinical resources and are already experiencing increased pressure to make clinically effective and cost-sustainable services. We all have a role in driving 'value', i.e. in striving to achieve the best outcome, and experience, while maintaining, or ideally reducing, the cost of achieving that outcome. Consultants, now and in the future, are expected to become managerially, even business, minded. Doctors need to understand how to ensure best value, be it through an integrated pathway, for example, or through effective use of competition in tendering services.

Common questions asked at consultant interviews are likely to challenge applicant knowledge about the bigger picture, asking how they would set about either generating revenue, or saving money, while maintaining or increasing the quality of care for patients. These types of questions are alien to doctors, who have often been led to expect that as long as they look after the patient in front of them, someone else will look after the system. Unbeknown to most trainees, doctors, particularly consultants, are key players in improving and running 'the system'.

Medical training doesn't always prepare doctors for these types of roles. Clinicians are excellent at finding the solution to an individual puzzle, but are less happy dealing with managerial or system 'problems', especially those within large complex organisations. It's often difficult for them to see the bigger picture because they don't fully understand the larger NHS culture and ever changing organisation in which they exist. They are also less strategic in their thinking because they are less inclined to think in terms of long-term system impact. But doctors are highly intellectual, evidence-based creatures that excel in learning new things and in making difficult decisions. They are trained to deal with complex high-risk issues, and possess the necessary skills to manoeuvre through the complex and adaptive system that is healthcare. Being in constant contact with their patients enables doctors to be strong patient advocates, but also helps to ensure that patients themselves are first and central to all decisions. Both doctors and their non-clinical manager counterparts have much to learn in co-operation with each other, but both need to challenge their own knowledge and behaviours.

The GMC already highlights that leadership is part of a doctor's professional work. The GMC's *Tomorrow's Doctors* states: 'It is not enough for a clinician to act as a practitioner in their own discipline. They are expected to offer leadership and to work with others to change systems when it is necessary for the benefit of patients.'

But how does one 'change the system'? Will a one-day leadership course really prepare us to face the challenges within our own Trusts, within our own NHS? A much more holistic approach is required to really gain the knowledge, skills and behaviours expected of a clinical leader of the future.

Luckily for us, leadership and management are not the dirty words they used to be. The Royal Colleges, LETBs and many hospital Trusts are all aware that an engaged clinician can help deliver a more effective and financially stable organisation, as well as enhance patient care and experience. Furthermore, the evidence is building to those wanting published proof. There are an abundance of leadership and management programmes available if you are prepared to seek them out, and many Trusts will jump at the chance to involve you in management and leadership challenges. Anaesthetists in particular are well placed to take up roles within senior management teams as they find themselves interacting with a wide variety of other specialty doctors and healthcare professionals. Furthermore, they are used to running a service with measurable outcomes, instinctively work in teams and have no 'turf' to lose, thus they are less likely to feel threatened by structural change.

Opportunities include:

Formal fellowships or programmes

- Clinical Leader Fellowships (previously known as Darzi Fellowships). Usually taken as an OOPE over 12 months, they usually allow the Fellow to undertake a large service improvement project within a hospital Trust
- NHS Medical Director Clinical Fellowship Scheme (previously known as Chief Medical Officer's Clinical Advisor Scheme). This is another 12-month fellowship, taken as an OOPE. It allows the Fellow to participate in a large project within an organisation such as the Department of Health, the Royal College of Physicians, NICE, MHRA or at the BMJ

NHS Leadership Academy programmes

- Currently on offer are four programmes to which doctors can apply (Edward Jenner, Mary Seacole, Elizabeth Garrett Anderson and Nye Bevan). Doctors in training are suited to the first two as they often do not hold formal authority positions. These are year long programmes which require the participant to complete online modules of learning, write formal dissertations and often participate and complete some form of 'leadership initiative'. All of this can be done in training. At the time of writing these programmes were free of charge when sponsored by your anaesthetic school, although applicants are warned that leaving the scheme early would incur a personal cost of around £5,000
- The Edward Jenner programme leads to a NHS Academy Award in Leadership Foundations. The Mary Seacole programme leads to a PG Certification in Healthcare Leadership with the opportunity to complete the Elizabeth Garrett Anderson programme and its Masters qualification in Healthcare Leadership

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Other formal qualification examples which can be found online

- Postgraduate Certificate in Clinical Leadership, e.g. The Open University
- MBA or MSc in Medical Leadership, e.g. From Southampton or Birmingham Universities

Leadership and management courses – ranging from one to several days

- The AAGBI offer an interactive two-day course in leadership and management which culminates in a networking dinner, and is mapped to the RCoA curriculum
- The RCoA offer an interactive one-day course in leadership and management aimed at senior anaesthetic trainees and consultants
- Leadership and management courses offered by The King's Fund can run from a few days to a year
- Local LETBs also offer programmes which can be found through their websites, although without an emphasis on anaesthesia

In-house training: (Don't be afraid to ask. People are more receptive than you think!)

- Get to know your Trust and its management structure. This can be as easy as looking through your local Trust's intranet site
- Ask to meet departmental leads, medical directors and operation managers. This will be a useful exercise when you come to making those important pre-consultant interview visits
- Your Trust may operate a type of mentoring or shadowing programme in which you can observe the work of the Trust behind the scenes, such as an executive shadowing programme or paired learning programme with a member of the junior management team
- Manage your department's rota and familiarise yourself with local and union employment policies
- Get involved in quality improvement and management projects to aid the Trust change. Note that this is part of the 2010 CCT Curriculum (see Annexe G for more details)

Become a representative

- Anaesthetic representative to a junior doctor forum
- Junior doctor representative on your Trust's local negotiating committee
- Join the BMA and act as a representative at local or national level
- Apply for other representative roles within the RCoA, AAGBI, ICS or similar societies

Join the faculty

- The Faculty for Medical Leadership and Management (FMLM) was set up in January 2011. It has a wide-ranging membership from medical students to chief executives. There are a wide variety of resources to access including frequent webinars on leadership topics

Follow a curriculum

- The Medical Leadership Competency Framework (MCLF) Curriculum offers a structured approach to learning. It also offers self-assessment tools, which are very useful to use as part of a personal development plan.
- The RCoA curriculum (Annexe G) gives guidance as to what they expect trainees to become familiar with

Read all about it online

- Twitter is a great source of new information
- NHS Leadership Academy
- King's Fund
- Institute for Healthcare Improvement
- Faculty for Medical Leadership and Management
- BMA website, BMJ, Anaesthesia News, RCoA website

E-Learning

- E-Learning for Healthcare (e-LfH) and LeAD (Leadership for Clinicians)
- Clinical Leadership 360 degrees (multisource feedback)

By flexing their leadership and management muscles, doctors may not only become more effective, but happier in their roles if they feel a renewed sense of loyalty and ownership of the NHS. This would not only benefit our profession, but more importantly, the patients we serve.

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MEDICAL EDUCATION

With the decreased training time available due to the European Working Time Directive there is an increasing focus on the quality of training, teaching and the learning environment. Teaching and training competencies are part of the RCoA CCT Curriculum and are described in Annex G. There are basic, intermediate and higher/advanced competencies. The curriculum lays out clearly the skills and attributes all anaesthetic trainees should achieve. At a basic level the focus is on one's own role as a learner with the emphasis moving to one's role as an educator at advanced levels. The challenge remains: if you want to stand out as a medical educator what can you do in addition to these required competencies?

Being an effective learner

Teaching begins with learning; some educationalists believe that there is no teaching but rather the facilitation of learning. While some readers might not agree with this, for all of us our first experience of education was as learners and this experience must necessarily inform our views and opinions. We know who the inspirational teachers are, and by thinking about their teaching style, attitudes and behaviours we may be able to mirror these qualities in our own teaching style. Likewise we can avoid the mistakes of the poor ones!

Both the trainee e-portfolio and consultant online CPD system allow for personal reflection. Reflection can be first used as a learner to reflect upon the quality of teaching received in theatre, the value of attendance at an external course etc. By reflecting on some positive and negative features one can incorporate them into future delivery of teaching and training.

Teaching opportunities

Within medicine and anaesthesia there is a huge range and variety of teaching opportunities. The courses and qualifications described later are costly, but getting involved in teaching on a practical level costs no money, just your time. Teaching may be formal or informal, organised or opportunistic. It is important to gain experience in all these different settings and to maintain a record of your teaching activity. If you supervise a more junior trainee this can be recorded within the RCoA logbook, you can reflect upon teaching sessions in your e-portfolio and collecting feedback from those you teach provides powerful evidence.

a) **Local teaching sessions**
Many anaesthetic departments run regular teaching sessions, journal clubs or both. These may be led or

facilitated by a consultant, but often involve trainees preparing and delivering content. The content is often exam focused but depends on the needs of trainees in a department. If such teaching does not exist within your department, why not set it up?

All trainees will spend some time at a teaching hospital and depending on local arrangements medical students will have an anaesthetic, ICU or acute care attachment. These attachments will involve formal and informal teaching sessions, and, if my clinical lecturer is like everyone else's, they are desperate for help in delivering educational content.

b) Regional study days
In addition to local teaching, regional study days are also common. These may be run by one hospital in a LETB or rotate around departments. Seek out your college tutor and volunteer your services to help organise one of these days, help is usually very gratefully received and a bit of initiative is very impressive.

c) School of Anaesthesia opportunities
Training is overseen by Schools of Anaesthesia and many will appoint a trainee representative. If you are interested in education this is a way to get involved in the organisation of training at a higher level. Arrangements vary between schools so again speak to your college tutor. Observing at interviews may feel like it falls into the category of management but an interview panel is trying to select trainees who will fit in with their training programme and show potential to learn and develop. If you see yourself as college tutor, programme director or regional advisor in the future it is these people that run the interview panels.

d) In-theatre teaching
Most opportunistic teaching takes place in theatre and even as a new trainee you have skills and knowledge that you can help others to develop. There are always medical students, student ODPs and paramedics in theatre. These people are often desperate for someone to give them some time, show them things and answer their questions (just as you are). As a more senior trainee you may be allocated other trainees on your list; a little preparation can make this a useful educational experience for both of you.

e) Simulation
For a variety of reasons the use of simulators in medical education is increasing. If you are interested in simulation teaching many of the centres require you to first undergo faculty development. These courses may require a registration fee or be free. Contact individual simulation centres for details. If your interest in simulation is more longer-term teaching fellowships. This may be something you wish to consider for an OOPE.

f) Resuscitation courses
Anaesthetists are popular as teaching faculty on resuscitation courses. The usual way into this is to be selected when completing a course as a candidate; those with potential are selected. If you are interested in gaining instructor status make this known to the course director before the course, they may have helpful hints to aid your selection. Once selected it is necessary to complete the generic instructor's course and commit to teaching a certain number of courses per year. Details can be sought from the Resuscitation Council.

Alternatively, the ALERT course is run in-house by many hospital resuscitation departments. This course is taught to many medical students and nurses and involves recognition and treatment of the unwell patient; just where the skill of the anaesthetist lies. Speak to your Resuscitation Officer to see if your help is needed.

g) Exam courses
Once you have gained your Primary and then Final FRCA you may be able to teach on exam revision courses. These may be run within your department or region. Acting as faculty and an examiner is a good way of keeping your own knowledge fresh.

Social media

While various models of distributed peer learning have existed for many years, the advent of widespread use of social media has led to a vibrant, dynamic and distributed education community. In very broad terms this phenomenon has been termed FOAMed (Free Open Access Medical Education) a description which was first articulated in 2012 [1]. However, the concept, that social media and web 2.0 technologies could be used to generate educational material, is not new.

In fact it is hard to really define FOAMed as different to any other form of educational activity which exists outside of traditional educational institutions. The difference now, however, is that for the first time the means to produce, distribute, consume and critique educational material lies in the hands of the consumer/student rather than with universities, hospitals, and postgraduate hospitals.

This represents great opportunities for education in anaesthesia and critical care which has, in fact, with emergency medicine, led the development of FOAMed.

The benefits of a free, vibrant, worldwide community of people interested in anaesthesia and critical care education are difficult to overstate. However the risks and disadvantages are not so well understood and this will evolve over the next few years; for example, peer review is poor, although there are two sides to this debate [2]. FOAMed is now an essential, fascinating, stimulating and altruistic community and should be embraced by anaesthesia and critical care. It still needs to evolve into an enduring, objective, coherent educational model of distributed learning and can only do that if trainees engage and contribute.

Articles and reviews:
- Globalization of continuing professional development by journal clubs via microblogging: a systematic review
- Innovative strategies in critical care education
- Social media, medicine and the modern journal club
- Ten steps for setting up an online journal club
- The social media index: measuring the impact of emergency medicine and critical care websites
- Integration of social media in emergency medicine residency curriculum
- Five strategies to effectively use online resources in emergency medicine
- Free Open Access Meducation (FOAM): the rise of emergency medicine and critical care blogs and podcasts (2002–2013)

Some of the established sites which contain content relevant to anaesthesia and critical care:
- http://www.wessexics.com/The_Bottom_Line
- http://intensivecarenetwork.com
- http://stemlynsblog.org
- http://lifeinthefastlane.com
- http://www.smacc.net.au

There are many other resources both in the UK and wider world and the Twitter hashtag #FOAMed is one way to keep track and find new material.

Workplace-based assessments

The way in which trainees are assessed and appraised has changed over the past few years, with the introduction of training portfolios and workplace-based assessments. Senior trainees are usually able to assess other trainees once they themselves have been suitably trained. This training is often available in-house but is also available at the RCoA.

'How to teach' courses

In addition to gaining training in assessment there are a variety of teaching courses available. These are available within many LETBs and may be free or cost up to £500 per module. The RCoA runs a series of events under the title 'Anaesthetists as Educators'. Annex G of the 2010 curriculum states that attendance at a 'How to Teach' course is expected at the higher level of training. Now that this is mandatory the issue still remains of how to stand apart. For that you may need a higher level teaching qualification.

Teaching qualifications

Qualifications in medical education range from a postgraduate certificate to diploma, and on to masters level and beyond. These qualifications are available at several institutions. The University of Dundee runs a distance-learning course focused on anaesthesia, while most other courses are directed at healthcare in general and include contact days. Distance learning probably fits with most people's working life but there are advantages to courses with contact days. The course I undertook at the University of Bedfordshire included contact days learning with trainees from other medical disciplines, dentists, vets and other healthcare professionals. Contacts made with trainees in complimentary disciplines allowed for joint teaching, observation and, importantly, feedback. Qualifications with fixed terms also focus the mind and a deadline might make some people more productive.

These qualifications represent a significant financial and time investment but, as with many things, if you see this as a worthwhile investment in your career you need to go for it. A PgCert will cost in the order of £1,500. I am aware of one LETB that offers a PgCert to a selected group of its trainees. College tutors and regional advisors should be able to provide local information on this.

Other resources

The Society of Education in Anaesthesia runs an annual meeting and many joint events with other anaesthetic societies throughout the year.

The Association for the Study of Medical Education deals with medical education in general and publishes, among other things, the journal *Medical Education*. As with all areas of interest, a study and publication always helps the CV.

The Academy of Medical Educators is an organisation for those with a role in medical education to 'provide leadership, promote standards and support all those involved in the Academic discipline of medical education'. They have recently published a report on behalf of the Department of Health [3]. This document, which is acceptable to the Department of Health and the GMC, will form appraisal of clinical and educational supervisors, a process that should be of interest to senior trainees.

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MEDICO-LEGAL EXPERT

The term 'expert' is widely misunderstood. It absolutely does not mean 'this person knows more about anaesthesia than you do'. It does mean 'this person is considered an appropriate individual to advise the court on the standard of practice that would be expected from an anaesthetist in the particular circumstances which pertain to this case'. The standard of care which the practitioner needs to have achieved to avoid being found negligent is that which is 'accepted as proper by a responsible body of medical men skilled in that particular art' (the well-known Bolam test) and which is amenable to logical analysis (the so-called Bolitho rider). It is the expert's job to represent the views of that responsible body to the highly intelligent but medically naïve lawyers and judge. What do you need to be an expert? From the point of view of the CV, you only really need to show that you maintain a clinical practice in the field under scrutiny and, ideally but not critically, that you have been doing so successfully for some time. It is much more important to have the right skill set and personality traits for this sort of work.

- **Ability to work to deadlines** – time factors can be critical when submitting reports or comments
- **Ability to write clearly and concisely** – try explaining the relationship between vaporiser setting, MAC, end-tidal and arterial volatile agent concentrations to a lay person who is interested in anaesthetic awareness
- **A logical mind** – the legal process is relentlessly logical, and you will need to be as well
- **A thick skin** – the lawyers for whom you are preparing a report will try very hard to pick holes in it, but this is nothing compared to what can happen in court when the opposing barrister gets his teeth into you
- **Complete control of your temper** – see above
- **Knowledge of your limitations** – nothing diminishes an expert's standing more than when they stray outside their area of expertise
- **A degree of anal retentiveness** – when every comma counts, as it does in legal argument, then slapdash is not a good look

If these are your strengths, then all well and good. If not, there is equally good, if not better, income to be had at the private hospital down the road, and you already know that you're a good anaesthetist!

While it used to be acceptable to learn on the job, nowadays some form of training is, understandably, considered useful. Bond Solon, a legal training firm, run one-day courses in report-writing, courtroom skills and civil law and procedure. Alternatively, Action against Medical Accidents (AvMA) and the Academy of Experts also provide training, usually for a lower fee. Once trained, how do you get your first case(s)? Unless you are fortunate enough to find yourself on AvMA's recommended list, your best bet is to attach yourself to the coat-tails of an established expert. Ask them for a few cases to study and to prepare mock reports; they may well recommend you when they are offered a case with too short a deadline, an increasingly frequent occurrence as the workload builds up.

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NEUROANAESTHESIA

Are you looking for a dynamic and rapidly advancing subspecialty where your anaesthetic technique can have a real impact on both operative conditions and patient outcome? Where advanced airway skills, multimodal monitoring and the management of challenging and complex cases are required on a regular basis? Do you enjoy bringing physiology and pharmacology to life while working as part of a dedicated team when managing critically ill patients? If so, neuroanaesthesia and/or neurocritical care may be the career choice for you.

Neurosurgical units are based within 37 teaching hospitals in major centres of the UK and Ireland. These act as tertiary referral centres within a set geographical area. Many of these hospitals also act as Major Trauma Centres, at the hub of a system of regional trauma networks that went live in April 2012. Most neuroanaesthetists will also have sessions where they carry out non-neurosurgical lists or work in intensive care.

Training

As with other subspecialties, the training in neuroanaesthesia and neurocritical care has become increasingly standardised following the introduction of competency based training. There are now intermediate, higher and advanced training modules, details of which can be viewed on the Neuro Anaesthesia & Critical Care Society of Great Britain and Ireland (NACCS) website and the RCoA website.

If neuroanaesthesia has appealed during your basic training then express an interest to your programme director at an early stage so they can arrange a placement for your advanced training.

Intermediate training

This requires between one and three months spent at specialist centre, building on competencies and skills obtained during basic training (CT1 and CT2).

Higher training

Anaesthesia for neurosurgery, neuroradiology and neurocritical care is one of the essential units of higher training for the CCT in anaesthesia. Between one and three months is spent becoming more independent in managing a range of cases for neurosurgical anaesthesia.

Advanced training

Advanced training in neuroanaesthesia takes 6–12 months and is often taken as an OOPE or fellowship. The majority of the time should be spent in neuroanaesthesia, although some experience in neurocritical care is also desirable. Many national and international centres offer advanced training and in addition may offer opportunities for research. Trainees are encouraged to gain experience in more than one neuroscience centre and if unable to do so should consider at least visiting other units. With this in mind, the NACCS offers a travel fellowship of £2,500. This fellowship is awarded annually to trainee or consultant members to help with travel and accommodation costs. The Society also has a network of linkmen, who can help arrange such visits. Clinical fellowships (both in UK and abroad) are often advertised on the website.

For those considering subspecialising in paediatric neuroanaesthesia, the recommended route is to undertake advanced training in paediatric anaesthesia and either gain neuroanaesthetic experience during that programme or undertake a further six months of training. This is in recognition of the fact that knowledge of two major anaesthetic specialties is required.

Trainees looking to specialise in neurocritical care as well as neuroanaesthesia should ideally complete three months of neurocritical care as part of their stage 2 training in intensive care medicine. Under the new stand-alone ICM training programme of the FICM, development of specialist skills in neurocritical care can be obtained through augmented learning in stage 2 of the programme. Although the majority of neurocritical care is undertaken within general intensive care units there are some single specialty units in the UK.

Developing your CV

You should get involved with projects in neuroanaesthesia or neurocritical care. Examples include presenting topics on neuroanaesthesia at journal clubs, teaching, audits and surveys. You could discuss relevant morbidity and mortality cases that occur in your neurosurgical unit. You should read the relevant journals and other topical subjects from the AAGBI glossies and RCoA *Bulletins*. These might give you a simple idea to audit and may lead to implementing change in your department. Even if you are not currently in a neuroanaesthesia placement you could initiate projects related to neuroanaesthesia, for example an audit of transfers of patients with severe traumatic brain injury. Anything leading to service improvement or improving the patient pathways will allow you to develop key management competencies, and demonstrate that you are motivated and enthusiastic. Above all, you should be proactive: keep your eyes open for any interesting cases that could be written up and submitted for publication. Often the simplest ideas are the best. Apply for local and national prizes because you will be surprised how many trainees don't!

Ability to communicate effectively and sympathetically with patients and their relatives may be demonstrated through A-CEX or ALMATs, or via cases on your ICU module. Working effectively in a multidisciplinary team and leading this team when chaos is surrounding you, is another skill to try and demonstrate through case based discussion.

How to use your study leave effectively

Not every hospital can provide all the areas of training you will need to complete your advanced training, for example only 19 centres carry out paediatric neurosurgery. Take the initiative, make your CV different, and show that you are interested and experienced in all aspects of neurosurgery. A few days spent in another centre looking at a specific area can be a very efficient use of your study leave. This will require early planning to set up an honorary contract, but should be quite easy to arrange, and has the advantage of being free! Look on the training section of the NACCS website where you will find information about what other neuro centres have to offer. Here are a few suggestions that will make it clear that you are serious about your neuroanaesthesia training:

- Improve your advanced airway skills: teach on a local airway course and make friends with a respiratory physician or maxillofacial team to increase your exposure to fibreoptic intubations. Don't forget to document these cases in your logbook
- Ensure you have a broad experience of spinal surgery including major orthopaedic spinal surgery such as scoliosis repair
- Spend some time in an X-ray department which performs interventional radiology for aneurysms, arteriovenous malformations and strokes. This is a very specialised but fast expanding area
- Ensure you have done some paediatric cases even if this is not your intended area of practice; time spent broadening your training is never wasted
- Offer to organise pre- and post-fellowship study days on neuroanaesthesia. This will make you popular in your department and look good on your CV. You can teach

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juniors about the safe transport of head injury patients and the principles of neurosurgical anaesthesia while you are on-call. Multidisciplinary trauma teams in DGHs and Major Trauma Centres may benefit from simulation-based training in neurosurgical emergencies. You may have been involved in neurosurgical cases in your obstetric module, and teaching the obstetric team and midwives could follow naturally.

Become a trainee member of NACCS

This is strongly recommended. The NACCS exists as a forum for the discussion and exchange of ideas, the promotion of clinical excellence and the encouragement of research. Attend the NACCS Scientific Meeting. Trainee membership is actively encouraged and costs £10. The ASM is a two-day scientific meeting with a session dedicated to trainee presentations and posters. There are many prizes on offer. The Harvey Granat prize is awarded to the best oral presentation. The NACCS awards two further prizes, for runner up in the oral presentation and the best trainee poster. All short listed oral presentations are published in the *Journal of Neurosurgical Anesthesiology*. All good stuff for smartening up your CV and it's a great place to network, put out feelers and to socialise.

In summary, neuroanaesthesia is a dynamic and rewarding subspecialty that offers opportunities for everyone. It encompasses patients of all ages, from the most straightforward to the most complex… so go for it!

The authors would like to thank members of the NACCS for reviewing this chapter.

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OBSTETRICS

An increasing multicultural maternal population, the complexity of medical problems, the obesity epidemic and the expectation of women to be able to successfully and safely give birth when they may not have done in the past, are all challenges to obstetric anaesthetists. Additionally, working with a wide range of professionals including midwives, obstetricians, neonatologists and obstetric physicians can test your communication and prioritisation skills. There are a range of interactions for the obstetric anaesthetist in the antenatal clinic, for labour analgesia, for operative delivery, and in the extreme emergency situations, meaning that your professional life is not only demanding and varied, but ultimately very rewarding.

The obstetric anaesthetist should:

- Be able to work with anyone, anywhere – this might include seeing selected women antenatally, liaising with specialist physicians and obstetricians, and working alongside midwives and obstetricians to care for women during labour, in theatres and on the postnatal ward
- Understand other people's concerns, as well as your own – knowing what the obstetricians and midwives 'are getting up to' will help you to head off trouble early! You need to understand the process of childbirth, learn how to read a cardiotocography (CTG) and be able to interpret fetal blood gases, etc
- Communicate effectively with people experiencing the whole range of human emotion – the mother in pain, the anxious partner, the stressed obstetrician and the busy midwife
- Be skilled with a needle – you'll need to be skilled at neuraxial anaesthesia and analgesia in some of the most challenging (and mobile!) subjects
- Stay cool when all around are losing theirs – providing safe and effective resuscitation, pain relief and general anaesthesia requires calmness under pressure, rapid decision- making, and leadership qualities
- Be a teacher trainer – providing up-to-date guidelines for the labour ward staff and information for mothers
- Be committed to keeping up standards – audit has a large to role to play in obstetrics, both locally, and with internationally established projects, such as Mothers and Babies – Reducing Risk through Audits and Confidential Enquiries across the UK (MBRRACE-UK) (formerly Centre for Maternal and Child Enquiries (CMACE))

Training

Obstetric anaesthesia is a core topic in anaesthetic training and as such every trainee spends a significant proportion of their training and on-calls dealing with pregnant women. However, a career in obstetric anaesthesia demands more. A trainee considering a career in obstetric anaesthesia should aim to complete an advanced obstetric anaesthetic training module, while securing a clinical or research fellowship for six or 12 months.

Arguably, of all the subspecialties, obstetric anaesthesia provides the most fascinating opportunities for OOPT, whether it's in the UK or overseas. If you do choose to go to a low to middle income country, keep in mind that it may have training implications. These positions are rarely advertised and often require a thorough internet search and/or a useful contact. Most of all, trainees should discuss their intentions with their training programme director or head of school early, as posts can be competitive to obtain, and notice needs to be given to take up an OOPT.

Trainees contemplating a career with a major commitment to obstetric anaesthesia should read Annex E from the 2010 CCT Curriculum. The RCoA website also provides practical information on OOPTs.

Audit

Audit is relatively easy to achieve in obstetrics and you should certainly aim to complete at least one audit project which could have a major impact on clinical care during your obstetric training. Aim to complete the audit loop and, if possible, present this as a poster or oral presentation at a national or international conference, such as the Obstetric Anaesthetists' Association (OAA) and the Society for Obstetric Anesthesia and Perinatology (SOAP), or a regional meeting such as Wessex Obstetric Anaesthetists (WOA), or the Society of Mersey Obstetric Anaesthetists (SOMOA).

Our subspecialty is actively involved in MBRRACE-UK, a perinatal audit that is the envy of the world. The philosophy of MBRRACE-UK is to recognise every maternal death as a young woman who died before her time and to use the lessons to save future mothers and babies. Since 2014 they have produced an annual report to provide recommendations and guidance. The Report's recommendations rapidly become the gold standard for perinatal care across the UK, Ireland and internationally, so make sure that you are up to date with them.

Research

Becoming involved in obstetric research can be difficult, as the availability of suitable obstetric patients does not occur on a regular basis, and ethical constraints make it difficult to complete research during a clinical fellowship. However, opportunities are highly sought after so if a chance presents itself, grab it.

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Research posts are usually 12 months long. They are becoming increasingly popular and are usually appointed by competitive interview. The OAA website is an excellent source of information for many of these fellowships in the UK, as well as abroad. Once you identify the fellowship you are interested in, contact the supervising consultant to declare an early interest. It is good practice to visit the hospital if you have not worked there before and talk to current and previous fellows, to give you more information about the post. This will help you confirm that this is the post for you, and will demonstrate that you have a serious interest in the fellowship

Courses and society memberships

You should certainly demonstrate your interest in obstetric anaesthesia by becoming a member of the OAA. The OAA has a global membership of more than 2,500 members (of which over 350 are trainees) and aims to promote the highest standard of anaesthetic practice in the care of the mother and baby. In addition, the OAA has excellent links with SOAP (its equivalent organisation in North America) and many other countries around the world. Try to attend one of the SOAP annual meetings, which are normally hugely interesting and are usually held in very attractive US venues.

The OAA offers preferential rates for trainees, and you should aim to present a paper or a poster at one of its annual meetings during your trainee years; the lucky trainee winner of the oral presentation wins a cash prize. Membership of the OAA also includes access to the specialist journal, the *International Journal of Obstetric Anesthesia*. In addition, do not forget about the Royal College of Obstetricians & Gynaecologists' website. It provides excellent information, much of which is of interest to anaesthetists. Many regions have local obstetric anaesthetic societies and they hold regular meetings on selected obstetric anaesthetic topics and membership is usually free of charge.

Perhaps the most important course to attend as a senior trainee with an interest in obstetric anaesthesia is the Managing Obstetric Emergencies and Trauma (MOET) course. This is a tough but enjoyable course, aimed at post-fellowship trainees in obstetrics and anaesthetics.

Teaching

There are ample opportunities to get involved with teaching in and around the labour ward. Local teaching programs often include small group discussions on analgesia in labour in antenatal classes, teaching on skills and drills for midwives, and getting involved in courses for novice and junior anaesthetists. Many hospitals now have simulation centres, which afford the chance to get involved in multidisciplinary training in obstetric emergencies and crisis resource management.

Management

This can be a bit tricky to achieve, as it usually has to be organised out of your own time – not many hospitals can spare trainees to be allocated on 'management' days. However, you do not need many of these sessions – just attending a couple of meetings can give you a flavour of how things are run 'behind the scenes'. You can attend a Maternity Matters or an Obstetric Risk Management meeting. Not only will this be educational but it will prepare you for the consultant interview. Also, spending some time with the local maternity Clinical Negligence Scheme for Trusts specialist can give you an idea of the current management goals and aims of a given maternity service.

You can also attend guidelines meetings and get involved in updating or writing a guideline for your maternity department. An ideal opportunity would be to link this to an audit or quality improvement project. Get in touch with the obstetric lead in your hospital who will no doubt have a list of guidelines that need updating.

The future

The workload of maternity services has never been higher. The caesarean delivery rate has increased from 10% in the 1980s to nearer 30% today. However, changes to workforce deployment may be around the corner. The current 8–9 hour consultant anaesthetist cover on the labour ward may soon become 12 hours, and ultimately 24 hours, to match consultant obstetrician work patterns. The European Working Time Directive and the continuing shortage of midwives will continue to impact on our ability to deliver an efficient and safe maternity service.

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OPHTHALMICS

Anaesthesia for ophthalmic surgery is a recognised subspecialty of anaesthetic practice. A broad spectrum of patients will be encountered, ranging from premature neonates to the very elderly who, because of their age, frequently require optimisation of concomitant systemic disease prior to surgery. Ophthalmic surgery is also commonly required for ocular manifestations of systemic disease and in 'syndromic children', hence a relatively high proportion of patients are seen with relatively uncommon medical conditions, making this a subspecialty that presents the opportunity to encounter a wide range of disease conditions. For these reasons, pre-operative patient assessment is particularly important and is being performed increasingly in centralised pre-operative assessment clinics staffed by trained nurses with consultant anaesthetic input. During consultations, decisions are also made about appropriate patient selection for day surgery and choice of local or general anaesthesia.

In the operating theatre, the anaesthetist performing any local anaesthetic block is responsible for checking the consent form with the patient, especially with regards the laterality of the eye to be operated on in accordance with stringent guidelines, hence vigilance and attention to detail is essential. A certain degree

of manual dexterity is advantageous in performing regional ophthalmic blocks. Good and effective communication skills are vital both in assessing the patient and in communicating with the surgeon to ensure optimal operating conditions.

The ophthalmic anaesthetist has a key role in the following areas:

- Pre-operative patient assessment – to assess patients and optimise existing medical conditions prior to surgery
- Provision of local anaesthesia; typically sub-Tenon's (blunt needle technique) or peribulbar (sharp needle technique) blocks
- Provision of general anaesthesia when appropriate
- Administration of intravenous sedation when indicated
- Patient monitoring during the operation, whether local or general anaesthesia performed
- Management of any peri-operative complications, including management of any haemodynamic instability and cardiopulmonary resuscitation
- Teaching and training of other staff
- Participation in audit and research projects
- Development of the ophthalmic anaesthesia service for the future

Training in ophthalmic anaesthesia

Over recent years, the trend has been for ophthalmic surgery and anaesthesia to be undertaken on a day case basis and an increasing number of procedures are carried out under local anaesthetic. To facilitate this anaesthetic provision, an understanding of the relevant orbital anatomy, physiology and pharmacology is essential, together with the more clinical aspects of patient care including experience in day case anaesthesia. All trainee anaesthetists with an interest in ophthalmic anaesthesia should complete competency-based assessment of knowledge, skills, attitudes and behaviour in ophthalmic anaesthesia in accordance with the 2010 RCoA Curriculum for a CCT in Anaesthetics. The training in ophthalmic anaesthesia is delivered in optional units at both intermediate and higher levels within schools of anaesthesia. Currently, ophthalmic surgery is undertaken in a range of settings including general hospitals, isolated 'stand-alone' units and large single-specialty centres. All such settings must have appropriate staffing levels, skill mix and facilities.

Some supra-regional tertiary referral units such as the Birmingham and Midland Eye Centre offer advanced training modules in ophthalmic anaesthesia [2]. Such advanced training provides specialist training opportunities for a senior trainee to gain further knowledge and experience in:

- General and regional anaesthesia for the range of ophthalmic surgical procedures including cataract, strabismus, glaucoma, vitreoretinal, oculoplastic and corneal transplant surgery
- Anaesthesia for elective and emergency ophthalmic surgery
- Pre-operative ophthalmic patient assessment
- Audit and research
- Levels of service provision required in ophthalmic anaesthesia including staffing requirements, equipment, support services and facilities [1]
- Recent guidelines and protocols in ophthalmic anaesthesia, such as the joint report by the RCoA and the Royal College of Ophthalmologists [2]

The British Ophthalmic Anaesthesia Society (BOAS) has collaborated with the RCoA and Health Education England eLearning for Health to produce an eLearning module in ophthalmic anaesthesia (e-LA Module 09 – Ophthalmic Anaesthesia) covering anatomy, physiology, pharmacology, pathology, regional anaesthesia and general anaesthesia. This is a very useful learning resource and trainees in ophthalmic anaesthesia are advised to complete all six sessions in this module. You can access these sessions by logging in or registering at http://www.e-lfh.org.uk

Ophthalmic anaesthetists who intend to work regularly with children will need appropriate training in paediatric anaesthesia in addition to specialist experience in ophthalmic anaesthesia. Any trainee who wishes to develop an interest in ophthalmic anaesthesia should make this known to their training programme director at the earliest opportunity so that appropriate training may be facilitated.

Improving your CV

BOAS organises an annual scientific meeting in the UK which provides useful specialist continuing education and professional development. In addition, a World Congress of Ophthalmic Anaesthesia is held once every four years; the next scheduled meeting will be in India in 2016. These events are also excellent opportunities for trainees to submit case reports and the results of audit or research work for verbal or poster presentation.

Both *Anaesthesia* and the *British Journal of Anaesthesia* publish articles and original research relating to ophthalmic anaesthesia. In addition, there is the *British Journal of Ophthalmology*. Attendance at specialist ophthalmic regional anaesthesia workshops on local anaesthesia for ophthalmic surgery will provide trainees with additional experience to further enhance and refine their local anaesthetic techniques.

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PAEDIATRIC ANAESTHESIA

Paediatric anaesthesia involves the provision of anaesthetic and pain management services to the whole spectrum of the paediatric population, from extremely premature babies on the Special Care Baby Unit weighing around 500 g, to 16–18 year olds weighing 100 kg or more. The provision of, and training for, general paediatric intensive care medicine is usually obtained through a general paediatric training scheme via the national grid, the details of which are outside the scope of this article. It is possible to work entirely within the subspecialty of paediatric anaesthesia, or to combine it with adult anaesthesia as a special interest area. It enables you, as an anaesthetic trainee, to combine working with children on a regular basis without the need to complete general paediatric training or achieve a dual certificate of completion of training. But how do you know if it's for you?

Foundation training incorporating a paediatric job is available but limited, although it should be considered if you are reading this chapter early enough in your medical career. It is often a challenge to arrange time out of structured training programmes to undertake additional specialty training. There is more flexibility offered at the end of each stage of training. There may be

opportunities between foundation and core training posts, or between core and specialty training posts, to gain experience in paediatric posts. Many departments are very keen to have motivated trainees in LAT posts, and have busy rotas to fill. This experience is not essential however, and there are many other places to start, such as with a CT1 post in anaesthetics.

There is no harm in declaring an early interest in paediatric anaesthesia, but before you can make any realistic progress you must complete your basic and intermediate level training in anaesthetics. For more detail about the current CCT Curriculum please see the RCoA website. During these early years in your career you will be developing your CV, and there is ample opportunity to put a paediatric slant to it and bring credibility to your claims. Volunteer to help with as many paediatric cases and lists as you can to increase your general exposure and experience, and hence your logbook numbers, over and above those required to achieve your basic and intermediate level training certificates. Any previous paediatric jobs or student placements, including work with children outside the clinical environment, should be particularly emphasised.

Complete at least one audit cycle of a paediatric-themed audit and present it at a local or national meeting, preferably with an accompanying protocol or guideline that you have written. Explore local opportunities to participate in paediatric anaesthetic research; many deaneries have academic/research fellowship posts which could be invaluable in allowing you to pursue this in more depth. Along similar lines, try to get involved in a project which could lead to a publication. You can also read relevant journals such as *Pediatric Anaesthesia* (for which you are entitled to a reduced trainee subscription rate) and see if you can get involved in the correspondence pages. Ensure you have done the basic training courses – European Paediatric Life Support/ Advanced Paediatric Life Support/Managing Emergencies in Paediatric Anaesthesia or other simulation courses – and become an instructor if you can. Get involved in local teaching; for example, can you help your Trust Resuscitation Officers deliver basic paediatric life support updates? Join any relevant local societies and attend their meetings. Seize the initiative and if there is nothing relevant in your area then expand the management section of your CV and set something up. You should certainly join the Association of Paediatric Anaesthetists of Great Britain and Ireland (APAGBI), contact your local APA Linkman via the APAGBI website for more information, and explore the possibilities of their annual scientific meeting which is an excellent platform for exhibiting your work in either oral or poster format. There is a trainee representative on the APAGBI Council – could it be you one day? Don't forget the GAT ASM is also a great national forum for presenting or displaying your hard work.

All anaesthetic trainees must complete the essential higher unit of training in paediatric anaesthesia as per the RCoA 2010 curriculum document. Undertaking this module as early as possible during higher training will allow you to confirm your own interest in this career path while increasing your clinical experience and exposure to audit and research opportunities. State your interest in paediatric anaesthesia early and liaise with your TPD to organise this.

Whether you are a ST who is about to start the higher training module or a CT1 looking for inspiration, meet and befriend your local paediatric anaesthetists as soon as possible. This will allow you to get a feel for the job and whether it might suit you in years to come, and investigate the future potential within the paediatric anaesthesia workforce in your region. It is a subspecialty which is becoming increasingly centralised; some district general hospitals have reduced their paediatric workload with a resulting impact on the more traditional role of anaesthetic jobs 'with an interest in paediatrics'. However, these things often come full circle and there will be future development opportunities within your Regional Managed Clinical Network, something else about which your local paediatric anaesthetists may be able to inform you. An early insight into these longer-term issues should enable you to consider fully any conflicts of interest between subspecialisation and geographical location that may arise for you and your family and which could influence your career decisions. Along similar lines, you will also need to investigate whether your LETB offers an advanced training programme in paediatric anaesthesia, and if so how to access it. Previously, it may have been sufficient within some LETBs to declare an interest (backed up by your logbook and CV) and put your name down, but this is increasingly being superseded by competitive application and interview, especially for the 12 month posts within specialist paediatric centres. Not every LETB has the scope to offer an advanced training programme in paediatric anaesthesia, and if yours does not then you will need to explore the feasibility of taking time out of programme and compete for a fellowship post. Overseas fellowship positions (commonly in Canada, the USA and Australia) require early application as there are often waiting lists, and must be prospectively approved by your regional advisor. There is a list of overseas fellowship posts on the APAGBI website. Evidence of long term paediatric interest and commitment on your CV will support your application and increase your chances of success. If it turns out not to be a realistic option, then another consideration is one of the increasingly popular post-CCT Fellowships. If you consider all your options in advance, discuss them with the appropriate people and prepare properly, the choice could be all yours.

Achieving your ultimate aim is a question of identifying it, declaring it, getting the relevant and important people on your side and listening to their advice and direction. Ensure you cover the basic essentials well in advance, and then any exciting extras you can add will be truly beneficial. If paediatric anaesthesia interests you then go for it – it is an immensely challenging and rewarding job.

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PAIN MEDICINE

Questions, questions…What is it like to be a consultant in pain medicine? Is it better to combine pain and anaesthesia or should I go solo? Do I have to sit an examination?

Pain medicine crosses all branches of medicine and all age groups. It requires a lively mind, a thirst for knowledge and a real interest in people. It 'describes the work of specially qualified medical practitioners who undertake the comprehensive management of patients with acute, chronic and cancer pain using physical, pharmacological, interventional and psychological techniques in a multidisciplinary setting' [1]. It is ideal for someone who wants a bit more variety and awake patient contact than with pure anaesthetics.

The Faculty of Pain Medicine at the RCoA is the professional body responsible for the training, assessment, practice and continuing professional development of specialist medical practitioners in the management of pain in the UK. It is there to make pain medicine, and pain training, better and its website is the most useful resource for pain training. It contains all the information about how to apply for pain medicine, how to prepare beforehand as well as career stories and training syllabuses. There are contact details for the faculty, local regional advisors for pain medicine and the current trainee representative, if you have any queries. The faculty and LETBs work closely together and there are regional programmes such as the Pan-London Pain Training Advisory Group.

In the past it was possible to become a fellow of the faculty by either having a consultant post or by completing suitable pain fellowships. Nowadays in order to produce consultants with internationally recognised skills, the training is much more formal and is based heavily on the Australian system of pain training which has been very successful. Examinations were introduced to ensure that standards were being met.

Pain doctors usually come from the specialty of anaesthesia. However doctors from other specialities such as neurology and palliative care can undergo pain training and gain the diploma of the Faculty of Pain Medicine. This reflects the broader nature of the specialty. To be a good pain doctor you must also be interested in people, be prepared to listen, and to develop skills in the 'talking therapies'. It is no longer sufficient just to perform a nerve block. You will work as a member of a multidisciplinary team; there is no room for paternalism.

All anaesthetists undertake a minimum of basic and intermediate pain training as part of their anaesthetic training. Basic training is done at CT1/2 and is mainly aimed at intra- and postoperative pain management with safe use of regional anaesthesia, analgesics, patient-controlled analgesia and epidurals. However, trainees are expected to gain a basic understanding of the management of chronic pain and pain in special circumstances such as children, the older person and those with communication difficulties.

Intermediate pain training is done after the Primary FRCA. The experience extends out of theatres and includes pain clinics, interventions lists and hospice visits. All trainees should have a good knowledge of the multidisciplinary management of pain and should be effective members of the acute pain team. If you wish to do chronic pain or any acute pain as part of your consultant role or consider advanced pain training then you need to do three months of higher pain training. As is often the case, competition for specialist posts can be substantial so it is sensible to demonstrate your enthusiasm for pain medicine with audit and research.

Those who want to specialise in pain medicine will then do 15 months pain training (higher and advanced modules) in the final two or three years of anaesthetic training. This time is spent entirely in the pain management department (except for on-calls). The trainee is there to learn, rather than providing service provision. This training time will equip the trainee with the necessary skills to be able to practice pain medicine as a consultant. During this time it is essential to complete the advanced pain medicine syllabus, including the more specialised areas of cancer pain, paediatric pain, pain management programmes and spinal cord stimulation. If any of these are not provided in your region, external placements can be arranged.

As with the rest of the syllabus, there are mandatory assessments during this time with DOPS, A-CEX, CBD etc. It is also necessary to complete quarterly assessments with your educational supervisors and two case reports. All trainees must complete the FFPMRCA exam, which is divided into two parts: written and viva. The written exam is a multiple choice, single best answer and extended matching exam, based on the syllabus. The viva exam cannot be taken until six months of advanced training have been attained and successful completion of the written exam. There are many exam resources available and the RCoA runs exam tutorials. Passing this examination will be compulsory in the future for those wanting to become fellows of the faculty, although the examination does not affect the award of your CCT.

Is it possible to seek a career in pain medicine without doing advanced pain training? This is not recommended unless you have gained substantial experience in other reputable pain training colleges, such as Australia and New Zealand, which are the only ones currently recognised by the RCoA. It is not mandatory for a Trust to appoint a consultant with FFPMRCA at the present time, but the college advisor would strongly recommend it and any candidates without it would be non-competitive.

The role of the acute pain consultant is changing; it is no longer sufficient just to perform a postoperative ward round as most of this routine work can be nurse led. Many patients with acute pain such as sickle cell crisis also have chronic pain and a detailed knowledge of pain medicine is required. Many Trusts have only consultants in pain medicine who all do a blend of complex acute and chronic work.

Pain management today has a strong emphasis on a multidisciplinary approach and all training should include exposure to pain clinics, interventional sessions, physiotherapy and psychological therapies as well as formal pain management programmes. It is very useful to make time in your training to go to clinic with other related specialties such as neurology, rheumatology, orthopaedics and spinal surgeons. Trainees should seek out these opportunities if they are not immediately available.

After training as an anaesthetist, most trainees will want to combine anaesthesia and pain medicine at the start of their consultant career. This is often a good idea as it keeps all options open. However, keeping up to date in both areas is a significant challenge and you will have to revalidate in both subjects. In time, some pain doctors drop their anaesthetic commitment, although most do not. Relieving pain and distress is a great privilege, despite its challenges. It requires good technical and diagnostic skills and an ability to communicate effectively, often in areas of great uncertainty.

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PLASTICS AND BURNS

Anaesthesia for burns and plastic surgery is varied and rewarding and there is huge potential to make a visible difference to the lives of children and adults. The caseload is mixed and is not limited to any one age group or site. This is one of the few areas of anaesthesia where you meet the same patients many times over your career and develop your own professional relationship with them. It is frequently fast-moving, advanced and the anaesthetist often uses the latest technology and techniques. Developments such as the first facial transplant are making it an increasingly exciting area. This specialty is different and flourishes by forging collaborative links with a host of specialities including ENT, gynaecology, maxillofacial and orthopaedics. There is still the misconception that this is an aesthetic specialty, however there is likely to be at least one area in your hospital in which you can carve a niche. Potential patient groups may include:

- Burns (resuscitation, intensive care management and transfer)
- Breast surgery (reconstruction following cancer, cosmetic breast surgery)
- Skin cancer (excision and reconstruction, management of metastasis)
- Head and neck (oral cancer reconstruction, craniofacial surgery)
- Children (cleft lip and palate, hypospadias, ear anomalies, congenital anomalies)
- Hand and upper limb surgery (hand trauma, degenerative conditions such as arthritis)
- Lower limb trauma reconstruction
- Microsurgery for bone and soft-tissue reconstruction and free tissue transfer

How to develop your CV

The ability to balance an extremely varied workload and a capacity to foster good working relationships as part of a multidisciplinary team make this specialty a particular challenge. If you have an interest in plastics and burns, let your training programme director or clinical lead know early on. Training doesn't have to be in a dedicated block, it could be performed piecemeal over time. Some larger centres may offer dedicated blocks and one year fellowships either as OOPE or post-CCT positions. The RCoA provides general guidance and the Association of Burns and Reconstructive Anaesthetists (ABRA) is helpful in providing a syllabus, but it may be possible to put together an interesting module yourself which would look all the more impressive on the CV.

The AAGBI and RCoA provide useful CPD topic guidance. Demonstrate commitment by presenting at journal clubs on relevant cases you have seen. There are regional and national meetings and ABRA offer a trainee prize. The specialty is often underrepresented at departmental level so offer to run some specific pre- and post-fellowship teaching sessions, an interesting area may be the choice of fluids and how they may affect survival of free tissue transfer. Audit activity is made easier as our surgical colleagues are only too keen to have an anaesthetist's collaboration. There are a number of collaborative areas to make a contribution to research and development such as pain relief following burns or the effects of anaesthesia on grafts.

You cannot be an excellent anaesthetist without knowing what the surgeons are up to, therefore it is vital to work closely with and attend some local surgical teaching sessions so that you know the difference between a TRAM and a DIEP flap! The British Association of Plastic and Reconstructive Surgeons (BAPRAS) have twice yearly scientific meetings. ABRA have a free paper section at their annual conference which provides a good opportunity to submit a poster for a prize; this is not oversubscribed and you stand a good chance of winning. The British Burns Association (BBA) meets annually during the spring for a multidisciplinary meeting and is another excellent meeting to aim for with either a poster or oral presentation. If the study budget allows, there is always the European Burns Association meeting.

Team working and the capacity to remain focused during long lists are essential. A background in paediatrics or intensive care would be useful for any list but is particularly relevant if you are going to be working in a tertiary referral unit for reconstruction or major burns resuscitation. Similarly, plastics and burns patients have often suffered trauma so it is useful to update your APLS and ATLS courses. Patients requiring head and neck surgery, those with face and neck scarring from burn injuries or congenital deformities will require an anaesthetist skilled in management of the difficult airway and time spent developing these skills will be invaluable. The BBA runs an Emergency Management of Severe Burns course, which is vital if you are to work with major burn patients. Some upper limb reconstructions are done entirely under regional anaesthesia so it is advantageous to book yourself on an ultrasound course. Circumstances may allow travel overseas; for example, SMILE is an international charity dealing with cleft lips and palates that welcomes specialty input.

It is worthwhile having an extra string to your bow. Educate your surgical colleagues on anaesthetic techniques on their study days, join paediatric airway lists and use your study leave to visit tertiary referral centres for burns and see how the dedicated intensive care is run. There is a National Burn Bed Bureau and burn patients are often transferred so make sure your transport skills are up to date in this area. Take the initiative, be pro-active and demonstrate interest and expertise.

The future

The specialty is a small one and many departments will be looking for candidates with an active interest. The number of consultant posts has increased in the last 20 years and plastics and burns anaesthetics has become an integral part of hospital practice. This rise is expected to continue as demand grows, which in turn will open up additional posts in the future to one of the most innovative and exciting specialities which you could become part of. Good luck!

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PRE-HOSPITAL EMERGENCY MEDICINE

This subspecialty training, open to anaesthesia, emergency medicine, intensive care and acute medicine trainees, was approved by the GMC in July 2011. The first trainees started training in February 2013 and have since completed the programme successfully. There are currently eight regions within the UK offering training places, and more may open in time. At the time of writing, completion of Pre-Hospital Emergency Medicine (PHEM) training is rapidly becoming a requirement for application to posts in many of the UK air ambulance and pre-hospital services.

The role of the pre-hospital physician

PHEM training aims to supply knowledge, technical and non-technical skills to doctors to allow them to reliably provide optimal care to severely injured or critically ill patients in the challenging pre-hospital environment. This early delivery of advanced care and management allows teams to deliver such patients to definitive care quickly, safely and in the best physiological condition possible. Specific examples of treatment include the provision of procedural sedation, pre-hospital emergency anaesthesia and delivery of surgical techniques such as thoracostomy, thoracotomy or amputation if the circumstances demand it. This level of clinical care is beyond the current scope of most paramedic practice. The ability to operate in environmentally challenging and resource poor locations, and make decisions with limited information demands a high level of additional experience and training.

Throughout the programme the PHEM trainee will attend incident scenes by land or air, initiate immediate critical care and then facilitate a safe transfer to the most appropriate hospital, which may not be the closest. In some cases the PHEM team may need to organise and/or conduct a secondary transfer from one hospital to another to allow access to specialist or definitive care.

The PHEM role extends well beyond direct clinical care – the PHEM physician will also be expected to provide remote clinical advice to ambulance and hospital colleagues, respond to major incidents in a clinical or command role, and support development of policy and procedures in a rapidly changing area of medicine. There is also a significant research, management and education role built in to the training and this will be evidenced within the portfolio.

The training

Training involves spending one year, whole time equivalent, in the pre-hospital environment during higher or advanced anaesthetic training (ST5+). Typically the programme runs over two years with trainees spending some time in their base specialty and some time in PHEM. The way it is delivered will depend on the local LETB and the ambulance/air ambulance services to which it is attached.

The training is separated into different phases. Trainees start in Phase 1A which typically lasts a month. There is an intense period of training both within their local PHEM organisation and at a national level. There will also be operational shifts under direct supervision. At the end of Phase 1A trainees undergo a 'Local Formative Assessment' that is similar to the 'Initial Assessment of Competence' in anaesthetic training. It usually entails a locally administered written assessment, an objective structured practical examination (OSPE) and high fidelity case simulations.

On passing this assessment, Phase 1B commences, during which trainees undertake predominantly clinical duties with exposure to governance, case review and educational meetings. Supervision varies between regions with some offering ongoing 100% consultant supervision until fully 'signed off'. Once the service providing the training is confident in the abilities and knowledge of the trainee, they may authorise indirectly supervised shifts where the trainee can access immediate advice from a PHEM consultant by radio or by telephone. Even at this stage a proportion of the duty periods (minimum of 20%) will still involve direct supervision to enable formative workplace-based assessments to take place.

Duty shifts usually involve being available for primary response to incidents by rapid response vehicle or air ambulance. There will also be exposure to secondary response involving the critical care transfer of patients from local hospitals to regional centres. At the end of Phase 1 the trainee will sit the National Summative Assessment (NSA) Part 1. This is now the Diploma in Immediate Medical Care administered by the Royal College of Surgeons of Edinburgh. This is held twice a year and costs approximately £680.

Successful completion of the NSA Part 1 will enable the trainee to enter Phase 2 of training during which they build and expand on areas learnt in Phase 1. Phase 2 also contains some distinct and specialist areas which are not covered in Phase 1. These include training in the provision of remote clinical advice and fulfilment of a 'Medical Incident Officer' role at major incidents. This second stage will also allow the opportunity for solo practice, education and research experience. At the end of Phase 2 the NSA Part 2 is taken. This is the Fellowship of Immediate Medical Care, again administered by the Royal College of Surgeons of Edinburgh at a cost of around £1,050. This two day exam consists of a written knowledge test and an OSPE with a complex high fidelity case simulation assessment. Successful completion of this examination and a sufficient number of workplace-based assessments (minimum of 117) will allow the trainee to apply for subspecialty recognition.

How to develop your CV for a PHEM post

Start by looking at the personal specification for the advertised posts which are subject to an annual national recruitment process. Before undertaking PHEM training, anaesthetic trainees must have done at least six months of emergency medicine in an approved training post at CT1 or above.

Previous experience in pre-hospital care is desirable but can be difficult to gain at a junior level. There may be opportunities for observer roles with your local ambulance Trust or the British Association for Immediate Care Scheme (BASICS). Motorsport or event medicine experience can also provide a limited introduction to the pre-hospital environment. It is recognised that experience outside of PHEM is difficult to achieve, but even with no actual experience the candidate must be able to demonstrate an understanding of the role, the environment and the challenges of emergency medicine outside the hospital.

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Applicants should be current providers in Advanced Life Support, Advanced Trauma Life Support/European Trauma Course and Advanced Paediatric Life support. Instructing on these courses is another way of demonstrating some of the non-technical skills required so it is worth mentioning your interest in being an instructor to the faculty at the start of such a course.

There are several relevant training courses you might consider, such as the Pre-Hospital Emergency Care course run by BASICS, the Pre-hospital Trauma Life Support course run by the Royal College of Surgeons, the Safe Transfer and Retrieval course or the Major Incident Medical Management and Support course (both hosted by the Advanced Life Support Group). Take any opportunity to be involved in audit or research in pre-hospital care.

If you are interested in doing PHEM training you should discuss this with your educational supervisor, anaesthetic TPD and contact your local PHEM TPD. These are listed on the Intercollegiate Board for Training in Pre-Hospital Emergency Medicine website. It would be very worthwhile meeting with current PHEM trainees to discuss application and training. It will certainly take time to organise your training opportunities and it may be necessary to arrange a temporary inter-deanery transfer if the PHEM training is offered away from your core scheme. Speaking to the RCoA and/or the Intercollegiate Board for Training in Pre-hospital Emergency Medicine can be very helpful.

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REGIONAL ANAESTHESIA

Why should I develop my skills in regional anaesthesia?

The ability to locate, image and block a central or peripheral neuronal structure is not just a skill for regional anaesthetists. In fact almost all anaesthetic subspecialties utilise, to some extent, regional or local anaesthesia either as a sole anaesthetic technique or for postoperative pain management. In this respect, regional anaesthesia is a core skill for all anaesthetists.

The increasingly ageing population has increasing comorbidities, and in many instances regional anaesthetic techniques optimise anaesthesia and are associated with improved outcomes. Recent developments in ultrasound guided visualisation and peri-neural catheter techniques have led to an increased interest in this field.

Current training

In the RCoA 2010 CCT Curriculum, regional anaesthesia maintains its importance from the start to the end of training. Many Deaneries offer advanced training modules in regional anaesthesia, with competitive entry.

Develop your CV

There are many opportunities to develop your CV, by improving your skill and experience in regional anaesthesia. As regional anaesthesia is a generic skill associated with many specialities, it can be useful for those who are in training but have not decided on a specific career path, as these skills are readily transferable. For others, regional anaesthesia is more than just an interest, and offers a rewarding, skill-based career path. Below are some of the opportunities that are available to trainees to further their interest and add valuable advantages to their CV.

ESRA Diploma in Regional Anaesthesia

The European Society of Regional Anaesthesia (ESRA) started a Diploma in Regional Anaesthesia in 2006. This two-part, (MCQ and VIVA), examination initially had a low uptake (four applicants in its first year) and also received criticism for poor standards. Times have changed and it has become a popular method for UK-based trainees to demonstrate their continued enthusiasm for regional anaesthesia. However, the ESRA diploma does not prove clinical expertise and you should be prepared to produce a log book to demonstrate this convincingly.

University of East Anglia MSc in Regional Anaesthesia

The University of East Anglia MSc is a three-year distance e-learning degree course, developed by regional anaesthesia enthusiasts and the national regional anaesthesia society, Regional Anaesthesia UK (RA-UK). Six compulsory modules are delivered over 16 weeks in the first two years, using innovative 'Virtual Learning Environment' and 'Problem Based Learning' approaches in a flexible manner. Candidates attend training and examination days at the end of each module. The third year is spent preparing a dissertation. A practical assessment is also included, using a system of local and regional mentors, leading to accreditation based on logbook proven experience. Candidates can complete the first three modules only to obtain a certificate, the first six modules and the practical module to achieve the PGDip and will be awarded an MSc if they successfully complete the whole programme.

Fellowship programmes

High profile academic centres for regional anaesthesia (New York, Vienna and Toronto) offer competitive out of programme fellowships. Many trainees are seeking time abroad out of programme with the added value of seeing a different country as well as being trained by some of the world's leading experts. This can be a valuable experience and is an impressive addition to your CV. There are several UK based fellowships available, for varying periods and with varying degrees of experience offered. RA-UK can provide contact details for some of these fellowships.

Society memberships

By joining ESRA you will automatically be invited to join RA-UK as well and will also receive the *Regional Anaesthesia and Pain Medicine* journal. There are significant discounts for trainees. The main European meeting is held in September and the RA-UK meeting is in May each year. Both ESRA and RA-UK provide a variety of excellent training courses, which are discounted for members. You would be expected to be at least a RA-UK member, in support of any claim to be a regional anaesthesia enthusiast.

Publications and research

Many trainees struggle to participate in regional anaesthesia research and subsequently fail to get published in this area. Both RA-UK and ESRA accept poster and verbal presentations at their annual meetings. By attending one of the ESRA annual meetings many trainees can get several posters (including completed audit cycles), sit the diploma examination and receive expert tuition on a cadaver or ultrasound workshop.

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New developments: ultrasound and catheter techniques

Interest in ultrasound guided regional anaesthesia (USGRA) has increased in the last few years. Ultrasound machines have become more powerful, cheaper and more portable. Augmented by the growth in the evidence base, many trainees are expressing an interest to be trained in this technique. This is currently a very popular area. Training in USGRA is also becoming standardised by the presence of nationally supported courses and published recommended training pathways.

Catheter techniques provide continuous postoperative pain relief, promote more ambulatory surgery and may reduce inpatient duration of stay.

What does regional anaesthesia training involve?

Regional anaesthesia training starts very early. As a junior trainee, regional anaesthesia can be used on a wide range of theatre lists from orthopaedics and trauma to general surgery. Common early blocks include femoral, fascia iliaca and transversus abdominus plane, later progressing to more complex deep blocks, (e.g. infra-clavicular) and blocks with close proximity to vital structures, (e.g. supra-clavicular).

Regional training involves a degree of self-directed learning. Your knowledge of anatomy and pharmacodynamics should be excellent. The increasing use of enhanced recovery protocols has made the use of regional blocks and local anaesthetics essential for early mobility and recovery. It is vital during regional anaesthesia training to put regional anaesthesia in context and regular sessions with the acute pain service to follow up and trouble shoot postoperative problems are just as important as the block itself. This also allows further regional training opportunities where rescue blocks can be used for failed or difficult postoperative analgesia.

The use of ultrasound has also renewed enthusiasm for regional techniques. The introduction of new technology and didactic skills can pose a challenge for regional trainers and trainees alike. It is important not to become over focused on just needle technique. An ultrasound (US) block can be split into four phases from US image generation and device optimisation, to interpretation and then needling and block performance. It must be remembered that the first two phases are equally important to the latter two phases [1]. It is useful to be competent in both US and non-US techniques; evidence suggests that the use of both modalities may be safer [2]. Regional anaesthesia training requires you to be proactive, in order to maximise opportunities. Practice scanning can be carried out on any list, on yourself and colleagues. You do not need to wait for a dedicated regional list; for example, on-call cover of emergency lists will often present cases that might benefit from a regional anaesthetic technique.

The UK CCT in anaesthesia offers a wealth of regional anaesthesia training opportunities. At the end of training you can become proficient in a variety of blocks that will allow anaesthesia and/or analgesia for the majority of procedures. If you want further experience, advanced training modules exist around the country allowing training in technically more difficult blocks and catheter techniques. It is vital to befriend your local regional 'gurus'. As an advanced trainee, rotation to other centres within your region can be advantageous to learn different techniques with a variety of tutors. Before you start your advanced training module, do your research and plan which lists/consultants/centres you would like to attend.

Consultant careers in regional anaesthesia

Where can you work as a consultant with an interest in regional anaesthesia?

One of the many good things about regional anaesthesia is that, in contrast to 'centralised' subspecialties such as neuro, cardiac, transplant or vascular, regional anaesthesia expertise can be equally valued in teaching hospitals and district centres, allowing a greater degree of flexibility when targeting a potential consultant job. Any hospital, whether it is a district or a teaching hospital, can become a regional anaesthesia centre with your help; you can either build on an existing team or strive to put the hospital on the national/international map yourself.

What can a job as a regional anaesthetist offer you?

- The satisfaction of having the expertise to offer a full range of anaesthetic skills to your patient in their best interest, providing superior analgesia without reliance on opioids
- The opportunities for service development, enhanced recovery, audit, research and training
- Promoting teamwork with your surgeon, the acute pain service and physiotherapists
- Teaching others by your expert example

What will the job require from you?

'Knowledge, skills and attitude'. However, there are a few things which are of particular importance for a successful career as a regional anaesthetist, such as:

- Good technical skills, wide experience and high success rates
- Keeping up with new developments (CPD), through meetings, courses, workshops, books and software etc. A subspecialty qualification (national or European) may become a standard requirement in future
- Learning how to cope with a failed block or difficult regional case
- Good communication skills. Successful regional techniques require communication with your surgeon and theatre staff (particularly for awake cases). You will need to be a confident communicator to take consent for, and perform regional anaesthesia, particularly in the nervous patient. It is important that any regional technique is an experience that a patient would be willing to have again
- Good management skills of your surgical lists. Regional blocks may require 'cooking time'. It is often the responsibility of the anaesthetist to rearrange the list in such a manner that there are no unnecessary delays
- Being a good trainer to your theatre assistant. A well trained assistant is vital for success and safety, whether it is keeping a patient with a fractured neck of femur in a reasonable position for a spinal or understanding the importance of negative aspiration and incremental injection of local anaesthetic

Wherever you get your dream job, it is sensible to keep in touch with like-minded 'regional' anaesthetists in your area, nationally and internationally; keep your eyes and mind open to new developments, present your projects and just enjoy swapping a few stories from the front line. RA-UK, provides a national forum, together with many other societies, e.g. British Society of Orthopaedic Anaesthesia, British Association of Day Surgery and the Obstetric Anaesthetists' Association.

Thanks to Drs Brooks, Crowley and Galitzine for their work on Developing your CV for Regional Anaesthesia, GAT Handbook 2011–2012, from which this chapter is derived.

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TRANSPLANT

Transplantation has evolved into a well-established management strategy for end stage organ failure. It not only saves life in the short term but makes substantial improvement in quality of life for patients.

The UK transplant programme is overseen by National Health Service for Blood and Transplant (NHSBT) which is a strategic health authority accountable to the Department of Health. It was formed by the merger of the National Blood Service and UK Transplant in October 2005. It is closely governed by the Care Quality Commission, the Medicines and Healthcare products Regulatory Agency and the Human Tissue Authority.

Currently (2015 data) there are almost 7,000 patients waiting on transplant lists and the NHSBT is committed to increase both quality and quantity of the programme which is elucidated in a strategic document *Taking organ transplant to 2020*. The five year survival rate is close to 90% in some programmes such as for kidney and pancreas transplantation, whereas there is room for improvement in some other areas such as lung transplantation.

Currently, there are six centres for heart and lung transplant, seven for liver, eight for pancreas and two for adult intestine transplant. The renal transplant programme is most widely spread and spans across 23 centres. These centres are throughout the country offering a tertiary level service.

The vast majority of trainees will rotate through a tertiary centre and have some exposure to the challenges anaesthesia for transplantation brings. The specialist programmes are accessible through either advanced level training or dedicated fellowship programmes and are often part of hepatobiliary or cardiothoracic training programmes at such centres. Becoming a specialist in one of these groups certainly puts an anaesthetist in a numerically select group. There are inter-deanery placements that can be arranged through the TPD if one wants to pursue a career into these specialist areas.

While some transplants have moved to daytime activity, the vast majority remain as emergency work out of hours and the existing consultants appreciate an enthusiastic trainee to lend a helping hand. This provides a trainee with a unique opportunity to see the management of sick patients first hand. Although several skills like history taking and institution of invasive monitoring are directly transferable from those learnt in general anaesthetic training, additional skills such as an appreciation of the degree of physiological derangement, learning to do advanced ultrasound, echocardiography and close involvement in multidisciplinary management makes one acutely involved in patient care within a unique environment.

The overall care of these patients allows an anaesthetist a unique opportunity to practice peri-operative medicine in patients often needing multi-organ support and pre-anaesthetic optimisation. This also gives an opportunity to interact with other specialist physicians in the hospital. When things do not go according to plan, the array of support that a sick patient waiting for a transplant may require can escalate quite quickly. This includes a wide range of haemostasis adjuncts, organ support systems like intra-aortic balloon pumps, extra-corporeal life support (including ventricular assist devices or extracorporeal membrane oxygenation), additional means of removing carbon dioxide, astute microbiology input in an immunocompromised patient, transfer of very sick patients to diagnostic radiology and back and various other organ preservation or support systems. The environment is challenging and there is very little room for error. Managing and learning from such a complex array of conditions with confidence, maintaining good communication skills and staying enthusiastic, definitely makes a trainee stand out from the crowd.

These centres are often actively involved in research. There are robust audit and outcome activities and these provide immense opportunities to get involved and to enhance a trainee's CV. Although these units are well supported by research grants and personnel, there is always room for contributing to the programme positively. There is always a need for writing protocols, revising and auditing their implementation and practice. Due to the case complexities and novel, evolving techniques, these attachments are unique opportunities to present at conferences and publish case reports in peer-reviewed literature.

The success and survival of transplant patients is increasing and these specialist activities are always related to a core specialist programme. These programmes are tailor made for trainees who are keen to become specialised in these areas. Transplantation needs doctors with a high degree of commitment who are willing to go that extra mile. Their reward is a special sense of satisfaction from involvement in this noble activity, nurturing the recipients of a special gift.

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TRAUMA

The establishment of regional major trauma networks in England has re-organised the provision of trauma care [1]. Patients with severe injuries are now usually transferred directly to a Major Trauma Centre (MTC) where there are consultant-led multidisciplinary trauma teams and the facilities to provide massive transfusion, emergency surgery, interventional radiology and immediate access to operating theatres. Patients with less severe injuries are taken to hospitals designated as Trauma Units. These lack specialist services, such as neurosurgery or cardiothoracic surgery, but are capable of treating and stabilising patients with life-threatening conditions for onward transfer to the MTC. Local emergency hospitals provide general accident and emergency services but do not have the facilities for receiving patients with major trauma.

There are many opportunities for anaesthetists in trauma care and the nature of the injuries you will have to manage will depend on where in the network you work. Pre-hospital emergency medicine (PHEM) is now a recognised subspecialty and, for those who lead the MTC trauma teams, a new subspecialty of trauma resuscitation anaesthesia is developing [2].

A consultant anaesthetist with an interest in trauma who works at a Trauma Unit hospital is likely to have to contribute to the out-of-hours provision of this service in order to meet target times. Trauma cases are part of the hospital's emergency workload and so operating lists will lack routine and be difficult to plan and you will need to be able to cope with a wide range of clinical challenges in changing circumstances. The patients can range from small children to centenarians, from those with extensive comorbidities who are considered unfit for elective surgery to

ultra-fit athletes. They may require procedures ranging from a simple manipulation to complex fixation of several fractures. You will also have to be prepared to assist with resuscitating patients with immediately life-threatening conditions and stabilising them before they are transferred to the MTC.

There are many opportunities to work as a peri-operative physician but pre-operatively one must be pragmatic and balance the desire for extensive investigation with the need for expediency. In theatre, the anaesthetist is essential to a large multidisciplinary team and often works encumbered by a gown and a face mask. One must use ones knowledge and skills to facilitate surgery in patients who often have potentially life-threatening medical problems about which the other staff are unaware. Postoperatively, in addition to ensuring the patient is alive and pain-free in recovery, the trauma anaesthetist is often asked to assist with the medical management of other orthopaedic patients on the ward. Don't expect to receive any recognition for doing this; just remember your training has given you a holistic view of patients!

Patients with proximal hip fractures are likely to constitute a large proportion of your caseload. They have a high postoperative mortality (8% die within 30 days of surgery and up to 30% die within a year) and you need to accept that, despite your anaesthetic management, your postoperative mortality rate will be higher than that of colleagues who only do elective work. The National Hip Fracture Database is a clinical audit project designed to facilitate improvements in the quality of hip fracture care and the Hip Fracture Perioperative Network (HipPeN) promotes high quality care for these patients. In 2013 a 3-month Anaesthetic Sprint Audit of Practice collected data for 16,904 hip fracture patients treated in 182 hospitals. Their care was compared with the standards of peri-operative care described in the 2011 AAGBI Safety Guideline on *Management of Proximal Femoral Fractures 2011*.

How to develop your CV

Here are some suggestions for how you might demonstrate that you have an interest in trauma and so increase your chances of being short-listed for a consultant post with a commitment to orthopaedic trauma.

- Perform a relevant audit or quality improvement project. There are many possibilities to review your hospital's practice against one of the published standards of care. Take a look at the National Hip Fracture Database website and the AAGBI Safety Guideline on *Management of Proximal Femoral Fractures 2011*.
- Find out the TARN (The Trauma Audit Research Network) data for your hospital. This multidisciplinary audit of the management of trauma cases (excluding elderly neck of femur fractures) identifies the unexpected survivors and deaths
- Do a trauma course. ATLS is the traditional course and provides a useful introduction to the language of trauma. However, the course content and structure is becoming increasingly irrelevant to the current practice of managing trauma cases, particularly in MTCs [3]. More recent courses such as the Anaesthesia Trauma and Critical Care Course and the European Trauma Course place more importance on management principles and team working
- Undertake training in leadership and/or human factors, as team working and good communication skills are essential to the provision of safe and effective trauma care
- Complete a paediatric resuscitation course, such as EPLS or APLS, as this will help your confidence in managing basic emergency paediatric care
- ACCS training or gaining additional general medical experience by working in an acute medicine, accident and emergency or intensive care unit post will help you manage medical problems in the peri-operative period
- Work in a pre-operative assessment clinic. This is an opportunity to evaluate the risks of surgery in elective patients with multiple comorbidities and plan their peri-operative management away from the pressure of providing an emergency service
- Take the opportunity to be out-of-programme. This could be a fellowship at a MTC or in PHEM. Alternatively, time working in the developing world demonstrates an ability to practice independently with limited resources. There are some useful resources for organising a year abroad on the AAGBI website
- Develop a skill that is useful in trauma orthopaedics, such as focused transthoracic echocardiography to identify aortic stenosis [4]
- Demonstrate an interest in regional anaesthesia but remember there are fewer opportunities to provide anaesthetic blocks in trauma cases than in elective orthopaedics

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VASCULAR

Vascular anaesthesia is a challenging subspecialty which essentially involves three operations: aortic aneurysm repair, carotid endarterectomy and lower-limb revascularisation procedures. Vascular patients have significant cardiorespiratory comorbidity thus there is significant morbidity and even mortality associated with the procedures – so it is not for the faint-hearted! In recent years there has been a trend towards endovascular repair of aortic aneurysms (EVAR) instead of open repair, which may take place in the endovascular suite or radiology department. Early mortality is reduced by EVAR but late morbidity and mortality means that EVAR catches up with open repair eventually, plus the patient needs a CT scan every year. Thoracic aortic aneurysms are now usually treated by endovascular repair as well.

A national screening programme for men over 65 years of age means that more open abdominal aortic aneurysm procedures take place in younger patients. Emergency vascular procedures include ruptured aortic aneurysm repair, lower limb revascularisation and, increasingly, 'urgent' carotid endarterectomy. Vascular surgery is being centralised into large vascular units as there is good evidence that vascular surgeons and anaesthetists with higher volumes of cases have better outcomes than 'occasional' operators. This process is not yet fully complete nationally.

What training is required?

There is no formal training programme in vascular anaesthesia as yet. The Vascular Anaesthetic Society of Great Britain and Ireland is currently in negotiations with the RCoA about this, particularly because of the centralisation of vascular services and the fact that vascular surgery is now a distinct surgical specialty recognised by the Royal College of Surgeons. Until a formal training programme is created, trainees wanting to pursue a career in vascular anaesthesia are advised to spend as much time as possible with vascular anaesthetists. It is not for everyone as it is challenging but it can be very rewarding.

Some teaching centres offer vascular fellowships or advanced training modules in vascular anaesthesia which are highly recommended. In addition, there are several centres abroad which are particularly suitable, including in North America (University of Michigan, Duke University, etc) and Australasia. Research and/or audit projects are obviously recommended for boosting your CV in this respect.

What does work as a vascular anaesthetist involve?

Vascular anaesthetists would expect to have one full day of vascular surgery a week in their job plan, which might have both open and/or endovascular operations on it. In addition to this, there may be cross-cover for colleagues who are away on leave in a 'flexi' session. All patients undergoing aortic aneurysm repair need to have a pre-operative assessment by a vascular anaesthetist so a pre-assessment clinic may be part of the job plan as well as attendance at the vascular multidisciplinary team meeting.

Most hospitals undertaking vascular surgery do not at this stage have specific vascular anaesthetic on-call rotas – however this could change in the future as larger centres are formed. In addition, many 'anaesthetic' intensive care consultants take a vascular session as part of their job plan.

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OVERSEAS TRAINING

"An NHS framework for international development should explicitly recognise the value of overseas experience and training for UK health workers and encourage educators, employers and regulators to make it easier to gain this experience and training."

Lord Nigel Crisp, Global Health Partnerships – The UK contribution to health in developing countries

OVERSEAS TRAINING

AUSTRALIA AND GASACT

What is GASACT?

The medical professions love affair with acronyms does not respect boundaries, and the land 'down under' is no exception. Introducing GASACT, the Group of Australian Society of Anaesthetists Clinical Trainees – the Australian equivalent of GAT. Although our acronym is larger we are smaller in number and are structured a little differently, but our aims are similar: to advocate for trainees and promote professionalism among our members, providing an independent voice for trainees. GASACT is represented by a committee comprised of members from each state in Australia. From the bigger states there are two delegates on the GASACT Committee. Collectively, we act as a voice for Australian trainees at state and national levels among the Australian Society of Anaesthetists and also through collaborations with other trainee bodies, including the New Zealand Society of Anaesthetists, the Australian and New Zealand College of Anaesthetists (ANZCA) Trainee Committee and the Australian Medical Association Council of Doctors in Training. In 2010, inspired by the activities of other trainee groups including GAT, GASACT ran its inaugural trainee congress, a one-day event which was combined with the ASA National Scientific Congress in Melbourne.

In Australia, many of the advocacy issues affecting trainees are championed through the Australian Medical Association (AMA). Issues such as safe working hours, and pay and conditions for junior doctors are negotiated on a state-wide basis. There are seven states and territories and medical funding and pay and conditions vary in different state jurisdictions. GASACT takes a limited role in negotiating these issues but, as mentioned, has a good relationship with the trainee body of the AMA and works with the AMA to further causes affecting anaesthetic trainees.

Anaesthetic training in Australia

Anaesthetic training in Australia and New Zealand is relatively well regarded, but differs from that of the UK in its length and structure. The body responsible for education, training, and continuing professional development in Australasia is ANZCA. The College of Intensive Care Medicine has recently become an independent college, with its own training programme.

There are undergraduate and postgraduate basic medical degrees with varying models in Australia. The initial 12 months of postgraduate training is spent as an intern and is hospital based, with mandatory rotations through general medicine, surgery and emergency medicine. A further 12 months of pre-vocational medical education and training is required before approved training in anaesthesia may commence. Many trainees do more than these minimum two years of postgraduate resident years, and it is common to do a year or two as an anaesthetic or critical care resident and senior resident before entering the anaesthetic training programme.

Anaesthesia training itself is five years in duration and is composed of two years basic training which includes 26 weeks of introductory training, two years advanced training and one fellowship year. There are two major exam hurdles: the Primary exam, undertaken during basic training, and the Final exam, for which you are not eligible until you have completed introductory training, basic training and six months of advanced training.

The Primary exam has an infamously low pass rate. It has just recently been changed with the roll out of our new curriculum. The current exam now examines applied physiology, pharmacology, anatomy, measurement, equipment, and quality and safety. The exam comprises a written paper (MCQ and SAQ) and, if successfully negotiated, is followed by three 20 minute viva sessions.

The Final exam comprises MCQ and SAQ papers and two medical vivas, followed by, if successful, eight anaesthetic vivas. Both exams have two sittings a year. There is also a modular system covering areas of clinical experience and other components of the curriculum that need to be completed; 12 modules in total.

Working in Australia during your anaesthetic training: why go?

Many UK trainees make the journey to Australia or New Zealand during their training years and most training schemes nationwide have a UK trainee working within them. Having worked with many UK trainees there seems to be a variety of reasons which motivate their time in Australia. Predictably the reasons are often multifactorial and centre on the themes of CV-polishing, change-of-scene, weather and lifestyle.

A common theme is that the job market is becoming increasingly competitive in the UK. Work experience in a different country shows that you have initiative to undertake and follow through with the big task of moving countries, welcoming change and being able to adapt and adjust to a new environment, people and culture. Hopefully, this makes a candidate an attractive addition to any anaesthetic department.

There is no need to look exclusively towards the anaesthetic departments of the 'flagship hospitals' – these are big and similar to the hospitals with which UK trainees are accustomed. The medical retrieval networks within Australia are very well organised and equipped to accept UK trainees. There is the option of working in regional and remote Australia where the work is challenging and the tyranny of distance that plagues Aussie medicine can be appreciated. Being immersed in a regional community can be a very rewarding experience and a real change to urban medicine. The only advice is that the department should be accredited by ANZCA so you know that the work environment is suitably supervised.

UK trainees seem to like Australian cities. Urban Australia and New Zealand are similar to the UK; similar culture, language, etc. There are established, although perhaps informal, links between some centres in the UK and Australia and many trainees in the

UK know a colleague who has been to Australia or New Zealand previously. Beware, however, that different cities and states are often dissimilar, and vary in terms of their regulations, pay and conditions and certainly experience different climates.

Warning: not all parts of Australia offer the iconic beach lifestyle for which we are known. Of the cities, Melbourne is probably the most similar to European cities. It has abundant good coffee and a cosmopolitan buzz, but is not as warm as the more northern states. Western Australia, Queensland and New South Wales probably have the best sun and beach lifestyles on offer, if that's what's attracted your attention. It might pay to be clear when organising your job: are you coming for a tropical climate, or so you can go to the beach every day? (not necessarily the same things!) Or perhaps you are coming for the people, the change or the experiences you will get at work?

Coming with a family: Australia is a place where you can certainly do that. Fellows who come with families can often arrange to put kids in playgroups and settle in to the community. Organising childcare can be difficult and waiting lists can exist in some centres. It is sensible to enquire beforehand, once you know where you might choose to live. Finding a house to live in once you get here can be more difficult than in the UK, allow three to four weeks. There are limited furnished properties, with most rentals being unfurnished.

Pay and cost of living

Australian trainees are paid according to their hours rather than a set salary. The number of hours is based around a standard fortnight, which varies in different states but is usually around a 38-hour week over the fortnightly cycle. Compared to the UK there are similar clinical hours, which vary with the position, but you may also get paid non-clinical or training time. There are some extra perks, e.g. salary packaging which can increase your real income quite substantially. Going out to dinner, coffee or having a car here can be cheaper than in the UK but previous trainees have found their weekly shopping more expensive.

Organising a year in Australia

So there will be some paperwork, a lot of paperwork, and it is expensive. An approximate figure is £1,000 (in paperwork alone), which covers application fees, credentialing, witnessing of documents, etc. Allow at least six months for this process.

- **When do you want to come?**
  Australians have a provisional fellowship year in their final year of training, designated advance training year 3. For UK trainees, you should probably be at ST5 level or above, and have your FRCA. The Australian academic year runs from January or February through the calendar year. Many postings in Australia can work on six-month rotations, so a start date in July or August may be possible

- **Which state you want to come to? Which city? Which hospital?**
  You will need a 'sponsorship contract' before you can get a visa. Ask if this can be handled by human resources in Australia

- **Australian Medical Council**
  Overseas trained doctors must be credentialed with the Australian Medical Council to practice as a medical practitioner in Australia. This can be complicated, expensive and time-consuming. You will need lots of copies of forms and credentials, which may have to be sent backwards and forwards to the UK for verification

- **Medical registration**
  There is now a national medical board. This makes things a little easier if you plan to work in more than one place, as previously each state/territory had a different medical practitioner's board

- **English certification**
  English competency is required. There is an exam, although exemptions from sitting this may be granted for those from English-speaking countries. For this you need to be able to prove your GCSE in English

- **Medical indemnity cover**
  This can be obtained once you get here and some have noted that it may be cheaper in Australia than UK

- **Finances**
  It is recommended that you see an Australian accountant soon after you get here to facilitate your tax return, maximise tax deductions and advise on salary packaging advantages

Many UK trainees have been to Australia before you and so this may make the transition process smoother. In some places hospital administration and human resources staff will be familiar with the processes required and may be able to advise you. For more information, please visit the ANZCA website.

Broadening your experience can be very valuable both personally and professionally. Australia is well-known for its laid-back attitude, its sporting culture, its outback centre and urban coast. There are many reasons to come as a trainee. Being close to Europe is not one of them. In fact being close to anywhere is unlikely to be one of them. But once you get all the way out here: you might even like it (unless we are winning in the cricket).

Dr Ben Piper
GASACT Chair (Newcastle trainee)

Dr Natalie Kruit
GASACT Chair Ex Officio (Sydney trainee)

CANADA

Canada is a large country with an ethnically diverse population and a challenging physical environment. From a healthcare perspective this means delivering health services across a large urban-rural divide, complicated by an expansive geography with large areas of low population density and huge distances. Medical training takes place within 17 medical schools across Canada (three are Francophone within the province of Québec, the others are either bilingual or Anglophone), mostly within larger urban centres. While some programs allow entry into medical school after two or three years of undergraduate university studies, the majority require a full undergraduate degree, typically in the sciences, but sometimes from as disparate disciplines as music and political science. A basic sciences course requirement must be met.

There are currently 17 anaesthesiology training programs within 17 medical faculties. In 2015, there were 104 anaesthesiology training positions available for Canadian graduates and approximately nine dedicated positions for international medical graduates. Access to these training positions is managed through the Canadian Resident Matching System, which is a centralised service that controls and allocates all specialist and generalist residency positions in the country.

Anaesthesiology is a five year training path in Canada. Throughout this time, trainees are called 'residents' and proceed through postgraduate years 1–5. Training across the anaesthesiology programmes tends to provide a dominant focus on education and a secondary one on service provision. Trainees are both

enrolled as postgraduate students within their respective faculty of medicine and employed by their academic healthcare organisation, or hospital. Most anaesthesiology programmes provide strong clinical training environments. Separate from the usual activities of academic clinical departments (e.g. grand rounds, mortality and morbidity rounds, local conferences, etc.), anaesthesia training programmes provide a comprehensive curriculum for residents with formal teaching at least weekly, and often daily during morning rounds.

Over the five years, anaesthesia residents must complete minimum requirements for training set by the Royal College of Physicians and Surgeons of Canada.

The criteria are as follows:

- 12 month basic clinical year
- 18 months in adult anaesthesiology
- Three months in paediatric anaesthesiology
- Two months in obstetric anaesthesiology
- One month of chronic pain management
- 12 months of internal medicine training (six months internal medicine subspecialties, including at least one month each of cardiology and respiratory medicine, and typically six months of ICU)
- 12 months of senior rotations in anaesthesia, critical care, research, pain or palliative medicine, including up to six months of elective rotations

Most training programmes exceed these minimum requirements in anaesthesiology and ICU. There is also some time during residency for electives, community rotations, and research if desired. Residency culminates in taking the Royal College of Physicians and Surgeons of Canada examination in the spring of the fifth year. This consists of MCQs, SAQs and an oral examination. This is inevitably a harrowing and stressful task but most Canadian residents (over 90%) are successful on their first try. However, the success rates for international medical graduates from select approved training programmes (US, UK, Ireland, Switzerland, South Africa, Australia and New Zealand only), while not officially published, appear to be much more variable.

There are many similarities and differences between Canadian training and that in the UK or Ireland. At a more granular level, the focus on education in Canadian programmes cannot be overstated. As residents, the typical work day mirrors that of a consultant teacher. Residents are assigned to a consultants list and work with the consultants (or they with us!). Residents cover on-call no more than one in four days, with up to two weekends per month. On-call is usually 14–24 hours long depending on the rotation and the programme. In most centres, regardless of level of training, residents are not permitted to do a case entirely independently (i.e. without direct available support). Consultants typically have to be in the hospital before any case starts. This reflects two issues: the first is the understanding that anaesthesiology training programmes see education as a priority over service provision. Second, this reflects the Canadian medico-legal environment and the level of vigilance that the profession has evolved towards in Canada.

Training culminates in certification as a Fellow of the Royal College of Physicians of Canada and a license to practice independently by a provincial (not national) licensing authority. At this point, one becomes a 'staff' anaesthetist and would typically be paid the same as even the most senior clinician in the department. The majority of Canadian anaesthesiologists are on a fee-for-service scheme, whereby each anaesthetic is billed directly to the provincial government (healthcare in Canada is governed independently by each province). Some more infrequent institutions have chosen to be salaried by agreement with the provincial government. Full-time average salaries are typically between $300,000–500,000 depending on the province. Of course many people choose to seek further fellowship training in a subspecialty, often within Canada or the USA but increasingly further abroad. Historically, there tended to be a good amount of community and academic jobs for new general anaesthesiologists, although this trend has been changing somewhat in the past few years with a tighter job market.

Acknowledgment
Thank you to Tracey Kok and Jaclyn Gilbert who had previously edited this section and on whose previous work this chapter is based.

Andre Bourgeois
University of Toronto Anaesthesia Graduate, 2015

NEW ZEALAND

New Zealand (or Aotearoa – Maori for 'Land of the long white cloud') may be a little country but it has a lot to offer. It has the benefits of an established and well-resourced public health system as well as a fantastic lifestyle with good work-life balance.

In most cities and towns you are always within a short drive of beautiful beaches, snow-capped mountains and regional parks where you can explore this land of hidden treasures and unspoilt beauty. New Zealand's urban centres have all the excitement and convenience you would expect from a thriving city: fabulous food festivals, shopping, arts and culture, sports, museums and everything in between.

Many overseas health professionals who have come across to New Zealand have chosen to make this their home. New Zealand has a truly multicultural society where everybody is welcome, and our workforce reflects this amazing diversity; here knowledge and skills are openly shared and gained.

The New Zealand Society of Anaesthetists (NZSA) is the New Zealand equivalent of the AAGBI and is a membership-based organisation that has supported and represented the interests of anaesthetists in New Zealand since its inception in 1948. Its tasks include advocacy, supporting research, political representation and overseas aid work.

Overview of anaesthetic training in New Zealand

There are four anaesthesia training rotations in New Zealand – Northern, Midland, Central and Southern. Commencing training involves two initial tasks: getting an anaesthetic Resident Medical Officer position with one of the 20 district health boards (DHBs) in an accredited hospital, and registering with the Australian and New Zealand College of Anaesthetists (ANZCA) who administer training. Please note that not all hospitals are accredited for training by ANZCA.

It is usual to have completed two years of Pre-vocational Medical Education and Training (PMET) and have secured a job in an ANZCA accredited hospital before registering with the College. However, applying to the College after only one year of PMET is acceptable and this can streamline the registration process and allows access to some online resources prior to registration.

In New Zealand, there are no 'non-training jobs' for registrars but there are some for senior house officers. Junior registrars in New Zealand are the equivalent of more senior core trainees in the UK/Ireland and it is possible to become a junior registrar as early as in the third postgraduate year.

Anaesthesia specialisation consists of a minimum of five years of supervised training, which is divided into four periods:

- Introductory training (26 weeks/6 months)
- Basic training (78 weeks/18 months)
- Advanced training (104 weeks/2 years)
- Provisional Fellowship (52 weeks/1 year)

After the initial six months of introductory training, a formal sign off is required (Initial Assessment of Anaesthetic Competence) before passing onto less supervised practice. The Primary exam needs to be completed prior to commencing advanced training and the Final exam must be completed before you can move onto a provisional fellow position. Your 'letters' are only awarded at the end of training and not immediately after completion of the Final exam.

The curriculum is based around the completion of a number of competencies that have to be achieved to complete training, as well as completing five years of recognised training time as described above. These competencies can be broadly classified as relating to one of three areas:

1. ANZCA Roles in Practice – abilities and attitudes that you are to develop during training. There are seven roles based on the CanMeds approach. Examples include medical expert, communicator, health advocate and scholar.
2. ANZCA Clinical Fundamentals – these are clinical skills and knowledge that are required of anaesthetists across all areas of anaesthesia. Examples include airway management, general anaesthesia and sedation, and resuscitation.
3. Specialised Study Units – skills and knowledge relating to subspecialty areas of anaesthesia, such as obstetrics, paediatric anaesthesia or cardiac anaesthesia.

Each Role in Practice, Clinical Fundamental, and Specialised Study Unit has a list of requirements associated with it that must be met during training. These include formative and summative assessments such as workplace-based assessments, mini-clinical examinations, case based discussions, and volumes of practice.

Progression through the training years also requires a number of core unit reviews, clinical performance reviews, as well as exam completion. Trainees keep track of their training progression and log cases on the online training portfolio system.

Getting overseas time accredited

If applying part way through training in the UK/Ireland, some training time may be accredited. Completion of the RCoA Primary exam does not exempt you from sitting the ANZCA Primary. However, completion of the RCoA Primary and Final exams may allow exemption from the ANZCA Primary but not the Final. Completion of all UK training requirements allows registration in New Zealand as a Specialist, usually requiring an interview with the Medical Council and ANZCA.

It would be advisable to apply and register with ANZCA prior to starting your position in New Zealand. This will allow you to get any retrospective time accredited and will mean you won't commence your time in New Zealand in introductory training. Check out the ANZCA website for further information.

Benefits of training in New Zealand

Rostering practices and supervision are generally very good within the New Zealand anaesthesia fraternity, with some variation from department to department. The vast majority of trainees will be granted leave as requested but with the priority being for courses and exams. The majority of consultants are approachable, keen to teach, and supportive of trainees. The theatre environment is welcoming and there are no steep hierarchical boundaries in communication between anaesthetists, nurses or other allied health staff.

Currently DHBs employ junior doctors under the Multi-Employer Collective Agreement (MECA), which is negotiated between the Resident Doctors Association (RDA), our union, and the DHBs. Although 98% of the junior doctor workforce are RDA members, it is not compulsory to join. Non-RDA members retain the option of negotiating their own contract with individual DHBs.

In its current form, the MECA entitles junior doctors, including those on a work visa, to the following:

- Paid meals while on duty
- 30 days annual leave
- Full reimbursement of the cost of your Annual Practicing Certificate from the medical council
- Full reimbursement of annual medical indemnity insurance fee
- 12 weeks of paid study leave for the duration of your specialty training
- Full reimbursement of all costs of specialty training (textbooks, college fees, exam fees, course fees, travel and accommodation for courses/exams)

Salaries are competitive and are based on a set amount rather than on hours worked, which is detailed in the MECA contract. This is based on where you work, with different urban and rural rates, and according to seniority by postgraduate years. Annual salary progression is built into the contract and increases each hospital year. Additional un-rostered duties, such as if a colleague is sick or away on unexpected leave, are paid at an additional rate.

Although medical indemnity insurance is compulsory, annual fees (which are reimbursed by the DHBs) are kept low by New Zealand legislation that prevents patients from taking direct legal action against medical practitioners. Cases of medical negligence are referred to the Health and Disability Commission and recommendations may range from an apology to being struck off the Medical Register. Affected patients are classified as having a 'treatment injury' and their care will be handled by the Accident and Compensation Corporation, a government agency which provides comprehensive, no-fault injury cover. Criminal practice will attract the attention of the police.

When to apply for a job

The working year in New Zealand starts in the final week of November for interns, house officers and senior house officers, and two weeks later (early December) for registrars. Jobs for the next working year are usually advertised in April or May although many departments welcome enquiries throughout the year. Applications are made to individual DHBs, but be aware that not all anaesthetic departments in New Zealand are accredited for training by ANZCA.

Registration

To practice as a doctor in New Zealand you will require a Practicing Certificate from the Medical Council of New Zealand (MCNZ). Graduates of medical schools accredited by the GMC or Irish Medical Council will be eligible for registration after their FY1 or intern year spent working under the jurisdiction of that Council. Doctors without British/Irish medical degrees who have worked for three of the last four years in the UK/Ireland and have full (unconditional) registration with the GMC or Irish Medical Council will usually also be eligible. The 'provisional general scope of practice' registration category that is awarded to the two groups above allows entry into vocational training in anaesthesia in New Zealand. Some applicants may need to sit an English

test depending on their background. For more information and to register contact the MCNZ.

Work visas

To work in New Zealand requires a visa and there are a number of different visas depending on whether residency is planned as permanent or on a temporary basis. These are issued by the New Zealand Immigration Service and can be obtained by applying to the nearest New Zealand High Commission or Embassy.

To work and live in New Zealand permanently, an application under the Skilled Migrant Category could be appropriate and many doctors come to New Zealand as skilled migrants. The Work-to-Residence visa allows application for a temporary work visa as a step towards gaining permanent residence. Alternatively, if planning to work temporarily in New Zealand a work visa is all that is required. For more information about the requirements needed, go to the Immigration New Zealand website.

Coming to New Zealand from the UK and Ireland can be a daunting process for many as it is about as far as you can travel from home! However there have been many who have made the journey and loved the adventure, experiencing a new place and culture, broadening their skills and have made many new friends along the way. So don't let the distance stop you, the summers here are long, the winters mild (relatively speaking) and there really is no place quite like it.

Kia ora!

Dr Ghassan Talab
Trainee Representative
New Zealand Society of Anaesthetists (NZSA)

THE CONSULTANT POST

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THE CONSULTANT POST

THE CONSULTANT POST

In general, there are two main approaches to securing a consultant post. Ideally your preparation should begin during training, rather than in ST7 when your CCT date is looming. Each approach requires dedication and a time commitment similar to that of revising for a professional exam.

1. **Going for your absolute dream job:** This means that it's all about the job description and location becomes secondary. You may be more likely to have a specialist interest such as ITU/cardiac/paediatrics/pain. Securing your dream job requires a CV that is bursting at the seams with skills and experience specific to your chosen specialty. It may be more difficult to apply for such posts outside your region of training, as you will often be competing against internal candidates. In this situation, working as a locum consultant or post-CCT fellow within the department may be of significant benefit, providing you with an understanding of how the department functions and what the substantive post may entail. Obtaining a locum consultant job is usually a less formal process and although this undoubtedly becomes a prolonged audition, you are in a strong position, working in the hospital to which you are applying. In addition, applying for a locum post provides invaluable insight into the whole application process before the real deal.

2. **Going for a job in your dream location:** This usually means that you are more of a generalist and requires a different approach. Your dream location will often be the place of your training and therefore you will have been on an extended interview over the past five years or more, though you may not have realised this at the time! Existing consultants will have a very definite view on whether they would like you as a colleague but in order to successfully secure the job, you must ensure that you are the best candidate 'for the Trust' and the best candidate at interview on the day. In this situation, it may be more difficult to have a 'stand out CV' from the outset and your approach must address how you can fill a service requirement for that Trust. This may come about fortuitously or it may be planned, because you have asked the Trust what is happening to service provision over the next few years – the latter is the better approach as most successful appointments solve a problem for the Trust.

Regardless of whether you are going for your dream job or dream location, the crucial message is that the application/interview process for a consultant post is unlike any other you will have experienced during your training. Specialist training is about meeting a standard; the consultant interview involves a Trust employing an individual for the skills and experience that make them stand out, so your CV must exemplify this. Unfortunately, even if you have been a fantastic trainee, excelled in a locum or post-CCT fellow post and have an appropriate CV, on the day of the interview you may still not be successful. There are two main reasons for this; you may perform suboptimally (which usually means you haven't prepared properly) or the best candidate in the world may apply from out of region (and that's just unlucky!).

Here are some tips for putting the most into the application and interview process:

CV – Update your CV early; ideally 6–12 months ahead of your CCT date because editing may take longer than you first anticipate. This will also enable you to identify and improve any weak sections to an appropriate standard in good time. In addition, your perfect job may be advertised at short notice and you will be eligible for interview six months prior to CCT. Having an updated CV may also save time when completing your application form and can highlight your strengths for pre-interview visits.

Borrow CVs from recently successful candidates to determine the structure, layout and content that appeal to you. We have all done much more than we think and it is essential to present this information in a clear, logical manner that sells your skills appropriately. For a small fee, numerous websites provide detailed advice on structure, formatting and useful descriptive phrases and it may be worth investing if you need help in this area. Ask a few trusted colleagues or friends to proofread your CV but be realistic about making changes – there will always be improvements suggested and at some point you need to stop! Very few people will scrutinise your CV in intense detail; most will only flick through it, so be mindful of devoting adequate time to the other parts of the application process.

Application form – Most consultant posts are advertised through NHS Jobs and this website also hosts the online application process. As with your CV, it's worth setting aside adequate time for completion. Start by entering your personal details and employment history (which may well be extensive) and be sure to save your profile. This will prevent you from wasting time and duplication re-entering the same information, should you apply for subsequent posts. Otherwise, each individual Trust has a set application form, with a word limit for each section. It may be difficult to fit all your achievements into a particular category but as far as possible, mention everything relevant to each area even if you have mentioned it in previous sections of the form because it may only be seen in separate parts by different people during short-listing.

Although a word limit will be specified, there is no limit to spacing allowed. You should therefore layout your answers in a clear and logical format, making the most of your strengths. You can double check your layout by printing out your application form prior to submission to gauge how potential short-listers will view it. There can be a huge difference between one continuous paragraph of prose and a bulleted list of your achievements. Crucially, you must relate your application to the person specification of that job and include all essential and desirable criteria that you can legitimately claim to possess.

Pre interview visits – These can be a daunting prospect; from how to arrange them to what to say! You need to ask to meet everyone on the panel except the College representative and chairman and try to meet as many members of the department as possible. It is sensible and efficient to email those you know and request meetings, while going through the PAs of executive board members to make appointments. Often clinical staff will say you don't need to meet them unless you especially feel you need to – this is not a trick and it can be annoying if you then push for an appointment with no real reason. Having questions prepared is useful in case conversation dries up, but as far as possible try to chat naturally. It is much easier to gain a rapport if you are not continuously writing things down during the meeting but do jot down notes sparingly or immediately after the meeting to remember for the interview. Try to research the person you are meeting (often there is information on the Trust website). If there is a presentation to give, this is an important topic to gather opinions on during your visits and can be an easy way to get conversation flowing.

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Presentation – Often you may be asked to give a presentation prior to the interview. This is rarely required to be longer than ten minutes but tends to take up a disproportionate amount of time in terms of your preparation. Although jobs rarely hinge on the presentation this is the one part of the interview that you can control; practice it and make it perfect. If it goes well, it can generate significant confidence in the less predictable interview. Limit your number of slides and keep them simple (minimal writing). Everyone's presentation skills vary but practice as many times as possible to ensure a polished delivery and accurate timing.

Interview practice – This is vital. The answers that are best received are those that are patient-centred so try to think of a few cases and scenarios that have been good and bad and be able to talk about them concisely as they will often come in handy when your mind is otherwise blank. With adequate preparation you should also be able to talk about the NHS, management and clinical issues in a simple and believable way that relates to everyday working and always refers back to your CV. This comes across infinitely better than dry descriptions of processes. You are trying to demonstrate that you are not just regurgitating NHS documents you have read, but you understand them and have implemented them in your practice. Again there are useful websites that offer excellent ways of structuring answers, but you often need a few weeks to work through and get the best out of them.

Although it is by no means essential, some may benefit from attending one of the many consultant interview courses available. These provide additional interview practice and often incorporate a summary of the current political issues and hot topics in the NHS – especially useful for those who have not managed to keep up to date with the many changes that have occurred nationally in recent years. It is most useful to get as much interview practice from consultants as possible and crucially to watch and listen to their responses to certain questions. This can often refresh your own style of answering. Practice in the mirror or car and have useful phrases to discuss any part of your CV in an interesting and natural way.

On the day: look smart and smile! If you don't understand or know the answer to a question, say so. Bluffing is usually obvious and rarely works. In fact, asking for the question to be repeated or admitting you don't know once in an otherwise good performance can be a likeable quality and demonstrates integrity. Good luck!

Natasha Joshi and Kajan Kamalanathan
Consultant Anaesthetists, University Hospitals Bristol NHS Foundation Trust

TEN TOP TIPS FOR YOUR FIRST YEAR AS A CONSULTANT

1. Try to enjoy yourself as you embrace your new role. Some people will take time off before starting, which can be a useful cooling off period. This isn't always possible but it is worth asking your department lead if this is something you would like to do, as most Trusts will try to accommodate your request if possible. When you start, take some time to adjust and think about what responsibilities may suit you. Often members of the department will suggest roles for you and it is important not to overload yourself. Take on anything you are comfortable with but it is also acceptable to concentrate on settling in while indicating that you may be interested in a few months. Remember that you may have ongoing projects that need to be completed before getting involved in something new.
2. Be open-minded. There are some roles that you may never have imagined yourself doing while you were training and there are roles that may be perceived as being ones that should be given to the 'new recruits' as nobody else wants to do them. Remember that everyone has their niche and you may find that as a consultant you might have a bit more freedom and influence to really make some roles work for you. You can always have a chat with the person who has performed this role previously and then make a decision about whether it suits you.
3. Keep a work diary. Try to start from day one and log all clinical AND non-clinical activity. The BMA work diary is widely used but there are other versions and it is worth asking colleagues which diary they use. It is a helpful tool for you to record exactly what you are doing and whether you need to ask for exposure to other areas of practice. It is also useful for appraisal/revalidation and future job planning.
4. Check your contract and job plan. It is recommended you have your contract checked by the BMA if you are a member. The BMA and AAGBI have published guidance on working as a consultant.
5. You will revalidate with your final ARCP but you must keep up to date with annual appraisals and record all supporting evidence towards these. Most Trusts use, or are introducing, an e-portfolio and it is easier to become familiar with the system from the beginning. As with the ARCP process, it is stressful if you leave collecting all the necessary evidence until two weeks before your appraisal!
6. Ask for help. You may well find you are asking more questions in your first few months as a consultant than when you were finishing your training. This is normal as you settle into your new role and/or new department. It is expected that you will continue to take advice or need an extra pair of hands on occasion. During the initial period of joining the on-call rota, colleagues will often offer to be available for help with difficult decisions. Most are happy to be called out of hours for advice too.
7. Get to know the department, especially the secretaries, as they will be organising your work life for the next 30 plus years! Early on is when you can easily introduce yourself to new faces but after some time it can get embarrassing when you can't remember names. It is best to make an effort to meet all your co-workers and participate in departmental social occasions.
8. Book away days. These are an excellent way to get to know colleagues better and dates are planned well in advance requiring leave applications. They tend to cover a large proportion of essential training and therefore will keep you up to date with what the Trust feels is important knowledge.
9. You will have to work with trainees who you will potentially know well. In fact due to people undertaking fellowships, sickness and flexible training you may find yourself with a trainee who actually used to be more senior to you which can sometimes lead to difficulty. You must remember that you are the consultant and the best thing to do is chat at the start of the day about what you're happy for them to do. Usually they will be quite senior and will be able to manage most things with you there as backup.
10. Don't get rid of your interview paperwork and preparation. It is always useful to hang on to these things for several reasons. It is unusual for consultants to move jobs, but it does happen occasionally, especially for family reasons. Future colleagues may greatly appreciate your advice and insights and you may one day be invited to write an article on the process of becoming a new consultant!

Kaj Kamalanathan and Natasha Joshi
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ACADEMIC ANAESTHESIA

GETTING STARTED IN RESEARCH

Training as a specialist is challenging with many calls on your time and effort. So, why should you get involved with research? The most obvious reason for an ambitious trainee is that it will improve your CV and enhance your chances of a first-class consultant job in a fiercely competitive market.

However, there are other reasons just as important. If you become involved in research you will:

- learn analytical and other skills
- be able to assess the evidence-base and make appropriate decisions on how it affects your practice
- understand the principles of project management
- get to know, and learn from, a wide and diverse group of colleagues
- become a true expert in a particular area
- preserve the academic base of our specialty so that it is not perceived as merely a service delivered by technicians; and
- (honestly) you will have fun

To appreciate where we are now with respect to trainees and research, you need to understand where we have come from. In my day (immediately post Ice Age), it was relatively easy to get involved in research as a trainee. Indeed, in order to get shortlisted for a senior registrar job, a CV with several published studies was almost essential. Every training centre had numerous ongoing research projects led by large academic departments or research active NHS consultants. This meant that nearly every consultant had research experience and many trainees who never would have dreamt of acquiring an academic interest became full-blown, card-carrying clinical academics.

Unfortunately, for the time being at least, those halcyon days have gone. Factors responsible for this are many and varied. They including: massive bureaucracy involved in study approval and data recording; reduction in the number of clinical academics; reduction in trainee hours; inflexible training programmes; and the fact that, until recently, trainees did not require research outputs to be short-listed for consultant jobs.

Fortunately, there are real signs that the Department of Health has become aware of the near demise of clinical research within the NHS and the real damage that this has caused; they are determined to reverse it. An example of their commitment is the creation and generous funding of the National Institute for Health Research (NIHR). This is a good time to be involved with research; the future is more promising than it has been for some years.

Getting started may not be easy but it is definitely achievable if you are pro-active and committed. Here are some top tips:

- **Find a mentor:** This could be anyone who is involved with, or has experience of, research; ideally, an enthusiastic consultant
- **Have realistic ambitions:** Don't try to cure cancer in your first study. Make sure that your project is simple, well designed and achievable
- **Get involved with established teams:** Are there any active research teams on your patch that need a pair of hands? This could be commercial or non-commercial research
- **Consider working in the laboratory:** Are there any local opportunities here? Laboratory work is very demanding and satisfying; it can be scheduled more easily than clinical research
- **Apply for a local research fellowship:** Most centres have a number of these posts. They are ideal for the research novice
- **Apply for a small grant:** The NIAA awards a number of

grants suitable for small projects and holds meetings for those interested in research. Have a look at the website and make an application with your mentor

- **Get writing:** Review articles are a good start and teach you many research skills. Are there any consultants who are interested in working with you on these?
- **Show commitment:** Research does not fit well with inflexible timetabling. Be prepared to go the extra mile when contributing to a research team
- **NIHR research training scheme:** Those of you who have serious academic ambitions should get involved in the NIHR academic training scheme. For this, you need to talk to your local academics and have a look at the website. However, remember you can still have a rewarding academic career in the NHS without being enrolled in this scheme
- **Do not get downhearted:** Research is not easy; things go wrong, projects get delayed, the paper work is often a real challenge. Be persistent and positive, your efforts will eventually pay off

Trainees are the future of our specialty. You must become the new generation of research active consultants who will safeguard the academic base of anaesthesia and its related specialties.

So, grasp the nettle, get involved and get started.

(Derived from 'Getting started in research' by Professor David Rowbotham, GAT Handbook 2011–2012)

Ravi Mahajan
Professor and Head of Division, Anaesthesia and Intensive Care, Queen's Medical Centre, Nottingham

WHAT IS AN ACADEMIC CLINICIAN?

Academic clinicians are both active researchers and practising clinicians and comprise around 6% of the UK medical workforce. Academic clinicians bridge the divide between practical medicine and the research environment, using their clinical experience to formulate pertinent research questions. Most academic clinicians are university employees with honorary NHS contracts. Job plans vary with regard to the proportion of time spent on patient care responsibilities and that spent in academia, and some academics give up clinical work altogether. Academic clinicians are also expected to teach students, manage academic departments and take on leadership roles.

Academic anaesthesia

Academic anaesthetists are a select group in the UK. Only 51 full-time equivalent senior anaesthesia academics were identified by the annual review of the Medical Schools Council in 2011 [1]. In comparison, 1,271 physicians and 275 surgeons were identified in senior academic roles. The reasons for this are multiple and were analysed by the RCoA in 2005 [2]. Both external factors relating to the way in which academic medicine as a whole is funded and internal factors specific to anaesthesia were identified as contributing to the low status of academic anaesthesia. The NIAA was founded in 2008 to raise the profile of anaesthesia research, facilitate high quality research in anaesthesia and support training in academic anaesthesia. Despite being a small academic specialty, anaesthesia research is diverse and wide-ranging. Researchers are active in the basic sciences that underpin the specialty, as well as in clinical research covering all anaesthesia subspecialties, critical care and pain.

Pros and cons of a research career

Academic medicine is an interesting and rewarding career but is not without drawbacks and is not for everyone.

Pros	Cons
Opportunity to make new scientific discoveries and change medical practice	Lack of financial security and fierce competition for research funding
Intellectually stimulating and varied	Prolongs training time
Interesting work with researchers across disciplines	Hard work to perform good quality research and maintain clinical skills
Opportunities for international travel for research collaborations and conferences	Administration, grant applications etc. are time-consuming and limit the available time for practical research
High degree of autonomy	

Despite the difficulties of a career in academic medicine, it remains an attractive career primarily because of the opportunity to make a long term impact on healthcare.

Training in academic anaesthesia

1. **Integrated Academic Training Path**
   Prior to 2007, there were no structured training programmes in academic medicine and individual researchers carved out their own career paths. The Walport report of 2005 identified this lack of transparency in training as a key problem in recruiting trainees to academic medicine [3]. Therefore, as part of Modernising Medical Careers, more structured training path was introduced. Academic clinical fellow (ACF) posts were created that provided specialist clinical training with a quarter of the time protected for academic work over a three-year period [4]. The level at which these jobs are offered varies from specialty to specialty, but in anaesthetics they tend to be at ST3 level. During the ACF, post trainees are expected to prepare an application for a three year training fellowship, a period of full-time research leading to a higher degree. In common with the small number of academic anaesthesia posts at senior levels, there are also a limited number of anaesthesia ACF posts; only seven of the 268 ACF jobs available for 2013 were in anaesthetics.

   Following the ACF post and completion of a higher degree, trainees can apply for a clinical lectureship. These are posts with time split equally between clinical training and academia. Trainees can hold these posts for up to four years, during which time they are expected to continue with their own research and to apply for research funding from major bodies. The final objective of the integrated training path is to produce consultants who are equipped to become academic clinicians with funding for their own research groups.

2. **Alternative academic paths**
   For trainees who are not able to secure an ACF post or who decide to pursue a research career at later points in their career, there remain several other options for pursuing a career in academic medicine or becoming a clinician with an interest in research (Figure 1).

Figure 1: Options for research involvement outside the integrated academic career path

Medical student	Foundation years	Core training	Specialty training
Intercalated BSc	Academic F2 post	Research skills courses	Research skills courses
Intercalated PhD	Involvement in clinical research and audit	Involvement in clinical research and audit	Involvement in clinical research and audit
Special study module with research component			In-programme/ out of programme research

Designing and obtaining ethical approval for a clinical research project is a lengthy process, so it helps to organise research posts and projects as far in advance as possible.

- **Research posts**
  Some Deaneries offer one-year in-programme research posts. These offer an opportunity to develop your research skills and experience, to find out if research is for you, and possibly to prepare an application for a formal research training fellowship. Similar posts are also advertised nationally; trainees appointed to these posts have to apply to their Deanery and the RCoA for permission to take time for OOP research. Six months of full-time research may be counted towards the CCT or up to one year if the trainee also has clinical duties during this time.

- **Other opportunities**
  The number of anaesthetists involved in research far exceeds the number employed in academic posts. The NIAA aims to support not only academic anaesthetists but also those who are research interested and the RCoA 2010 CCT Curriculum defines academic and research competencies. All trainees are expected to attain basic and intermediate research competencies with higher level competencies available for interested trainees. Options for research involvement include contributing to ongoing research projects, research skills development and presenting work at national and international conferences.

Information and guidance about careers in academic medicine:

- Anaesthetic Research Society
- The Academy of Medical Sciences
- NIHR Trainees Coordinating Centre
- Medical Schools Council Academic Job Opportunities
- NIAA

Research courses

Attending research courses can help with design of studies, understanding research ethics applications, statistical analysis and writing research papers. Examples of courses available are:

- **Good clinical practice (GCP)**. GCP is an internationally recognised set of scientific and ethical principles that clinical trials should adhere to. Attending a GCP course is mandatory for individuals working in clinical research. This may be done in person or online
- **Anaesthetic Research Society research methodology workshop**. Run in conjunction with the RCoA and covers principles of study design, project management, data analysis and presentation of results
- **Scientific methods and research techniques (SMART) course**. Three day research methodology course for anaesthesia trainees run in Cambridge annually
- **University courses**. Many universities run courses covering particular aspects of research project design and analysis. Trainees, especially those employed in academic posts, can often enrol in courses at their local institution

Sources of research funding

Deciding where to apply for funding will depend on the requirements of a research project. Funding a higher degree requires financing three years of salary as well as the costs of research, whereas other projects may only need a small project grant. Applying for funding is time-consuming, so decide carefully where to apply and start the process early. Major funders include:

- **Medical Research Council.** Publicly funded organisation supporting medical research. Funds PhD studentships for clinicians as well as a range of programmes for more senior academic clinicians
- **Wellcome Trust**. Major independent medical research charity. Funds PhD studentships for clinicians as well as a range of programmes for more senior academic clinicians
- **National Institute for Health Research (NIHR)**. Funded by the Department of Health to support medical research within the NHS. Funds ACF and CL posts as well as doctoral fellowships and awards for more senior researchers
- **National Institute of Academic Anaesthesia**. The NIAA administers a number of grants for anaesthetic research in association with bodies including the RCoA, BJA, the AAGBI and specialist anaesthetic societies. Most of these are smaller project grants but larger grants and fellowships are sometimes offered
- **Other charities**. If the research being conducted is particularly relevant to a disease or group of patients, there may be specific funding available, for example from Cancer Research UK and the British Heart Foundation. Details of many charities can be found on the Association of Medical Research Charities website. Some hospital Trusts also have charitable funds that may be able to support small research projects.

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HOW TO...

"We believe that involvement in academic activity is a cornerstone of anaesthetic training and this leads to improved clinical care at both a local and national level."

National Institute of Academic Anaesthesia

HOW TO...

HOW TO TACKLE YOUR E-PORTFOLIO

Background

The RCoA e-Portfolio was launched in August 2011. This coincided with the move of the majority of trainees from the 2007 to the 2010 CCT Curriculum.

Despite the perception of anaesthetists utilising technology, until this point trainees in anaesthesia had to maintain a paper portfolio containing the evidence of their training. Workplace-based assessments (WBAs) forms were completed on paper and the mandatory yearly multisource feedback (MSF) had to be collated by hand. Prior to their ARCP the trainee would meet with their educational supervisor to review all of their WBAs and other evidence which had been collected throughout the year before writing their report. In some areas the portfolio had to be submitted to the ARCP panel in advance.

For the majority of trainees who will have completed a UK Foundation Programme prior to entering anaesthesia, there are similarities between the e-Portfolios. However, the Anaesthesia e-Portfolio is developed by a different provider to Foundation, Emergency Medicine, Medicine and Intensive Care Medicine and therefore has a totally different look and feel.

How do I get access to the e-Portfolio?

Accounts for trainees are created by the e-Portfolio team at the RCoA on receipt of the appropriate trainee registration form. For trainers, details need to be sent to the e-Portfolio team via your school administrator with details of access required. There are multiple roles identified which allow varying degrees of access to the trainees in a particular school of anaesthesia, e.g. TPD or RA roles can view the e-Portfolio of all the trainees, whereas college tutors can view trainees who have assigned themselves to a specific hospital. Educational supervisors (ES) can view only trainees whom they are supervising.

On first login as a trainee you will be asked to select your ES before you can go any further. This then allows your ES to view all the activity in your e-Portfolio with the exception of private entries. You should also ensure that you update your current hospital as this then allows your college tutor to view your e-Portfolio.

What's what in the e-Portfolio?
The different sections of the e-Portfolio can be located on the banner bar at the top of the webpage. On the homepage you will also find an 'Alerts' section within which news and other information appears. In the centre of the page is a tasks list which shows items which need action. The best way to initially navigate the e-Portfolio is to work from the right hand side of the banner bar.

Library: Documents (up to 2MB) can be stored here and then associated with other parts of the e-Portfolio. There is no restriction as to the number of documents that can be uploaded.

Activities: Details of any activities or events undertaken are recorded in this section. Reflective practice or further information can also be added if required. It is also possible to link supporting evidence from your library, e.g. a CPD certificate or a weblink to the activity, following the addition of reflective practice. If the activity relates to a personal development plan (PDP) objective you can also link the activity directly to that PDP.

ARCP Records: This lists your current open and previous ARCP records. In here you will find a list of assigned items to the current ARCP with the date of the ARCP (although this may not be accurate as the dates can be corrected by the school administrator just prior to ARCP) as well as a summary of progress against the core requirements for each stage of training (Basic, Intermediate and Higher/Advanced).

Planning: This section allows creation of PDPs or Learning Agreements. Initially you should create the plan, e.g. PDP CT1 Hospital A, and then create individual PDP objectives in the plan. To create a Learning Agreement you follow a similar process by ticking the Learning Agreement box. Any objectives added will appear as a task for your supervisor to approve and subsequently mark as completed. Once all the objectives have been completed then the PDP can be locked.

Qualifications: Any qualifications can be listed here with associated evidence and approved by your supervisor.

Diary: Lists the date that WBAs or activities have been undertaken.

Assessment Tools: This is where you request assessments, Completion of Unit of Training forms, Interim Progress Reports, Educational Supervisors Structured Report (ESSR) or a MSF. It is possible to view assessments requiring action, completed assessments or associate these to the open ARCP panel. It is also possible to recall unapproved assessments if they have been associated to incorrect units of training when being instigated or if the assessment has not been completed after a significant period of time.

With the exception of MSF, in order for a trainer to complete the assessment, they must have an e-Portfolio account. For MSF the trainee can select either previously used assessors, select assessors from the e-Portfolio system or input email addresses for external assessors such as nurses, ODPs etc. A minimum of eight and up to 30 assessors can be chosen for MSF. Once the assessors have been chosen then the list has to be sent to the educational supervisor for approval. Unlike other e-Portfolios, the MSF is locked to both the ES and trainee for 30 days from approval. It is not possible to add further assessors to the list once approved by the educational supervisor. The trainee can see who has responded, so that non responders can be chased up.

An advantage of the RCoA e-Portfolio is the integrated ESSR which is completed immediately prior to the ARCP. The ESSR will auto-fill activities undertaken during the ARCP period as well as a list of all associated WBAs, from the library, hence saving time if you have input information throughout the year.

Unlike other e-Portfolios this does not have separate forms for meetings with your ES. You can record them in the activities section, or individual schools of anaesthesia may have documents that can be uploaded into the library and associated as supervisor meetings. The Interim Progress Report can also be used for end of placement meetings or as a summary of training during the year when trainees rotate hospitals.

View Portfolio: This section shows the Units of Training for each level of training and the associated WBAs, evidence or activities.

Where to get help
There are multiple guides which have been written by the

e-Portfolio team to help with various sections of the e-Portfolio – http://www.rcoa.ac.uk/trainee-e-portfolio/guidance-notes

Each school of anaesthesia has an administrator and most have a named clinical lead who can offer advice – http://www.rcoa.ac.uk/node/20324

Also contact more senior colleagues or your college tutor; if you have a problem then it is likely that someone else has had a similar problem and they may be able to help you.

If all else fails the e-Portfolio helpdesk is available Monday to Friday from 9.00 am–5.00 pm (excluding public holidays). Tel: 0207 092 1556 or email: e-Portfolio@rcoa.ac.uk

Ian Whitehead
Consultant in Anaesthesia & Critical Care, HENE

HOW TO DESIGN A STUDY

The strength of a study depends on its design. Rather than classify the different types of study and get bogged down in statistics, I'm going to approach it from a practical point of view.

The idea

Some ideas arise from clinical cases, (e.g. 'Is my anaesthetic technique better than yours?'), while others come from reading or discussing published papers, conferences, or just out of the blue. Sometimes a small-scale project like a local audit becomes much more interesting than expected and can be expanded into a full paper. Many ideas fall by the wayside because of the practicalities (see below), and it's always worth testing the idea to see whether it has a good chance of running before investing too much time and energy. Sometimes an idea stands up to all the challenges, only to fall at the 'PubMed hurdle' – someone has done it before (not that this is a fatal flaw; most studies are worth repeating. In fact, an easy way to think of a project is to repeat someone else's).

The question

It may be surprisingly difficult to narrow down a general idea to a specific question or questions that might be answerable by a study. For example, 'Is my anaesthetic technique better than yours?' could raise questions about individual drugs, combinations of drugs, practical procedures and even individual anaesthetists. Even if one were to decide upon 'Is drug A better than drug B?', the matter of what 'better' means must also be defined, (e.g. less pain, faster recovery, shorter hospital stay, lower cost, etc). For most outcomes there are also different measurements from which to choose – e.g. 'less pain' might be measured as lower pain scores, less morphine requested, or a longer time before requests. Defining the question is crucial since it determines the type of data collected and therefore sets the scene for the entire project.

The design

By 'design' I mean what is actually done during the study. For example, is any intervention happening, (e.g. giving a drug) or is it simply observational, with measurements being recorded but nothing 'done' to the participants? Is data collection prospective or retrospective? The latter is weaker since the data were collected without the study in mind, so one can be less certain about their accuracy or completeness. An important consideration is the choice of appropriate controls, for example drug A versus drug B, where drug B is the standard treatment (thus control) and drug A the newer (experimental) one. But even here, unless there is good evidence that drug B is effective, a finding that drugs A and B have similar effects could mean either that they're equally effective or that they are equally ineffective.

The practicalities

Many a good idea has to be abandoned because the study is just impractical in that setting. For example, anything involving extensive data collection by other parties, (e.g. ward nurses, midwives) is likely to fail because such people are busy and furthermore have no interest (in the 'ownership' sense) in the study. Studies of rare outcomes require huge sample sizes and are probably not worth the effort on a local level. Some measurements are just too difficult to obtain. I always tell those embarking on a project that there are two golden rules of research: (i) everything takes four (not three or even two) times longer than you think it will as times are getting harder; (ii) you cannot rely on other people to do anything for you; and (iii) life gets in the way. You have to be realistic about being able to complete the study before starting, since giving up halfway through is a waste of everyone's time.

The numbers

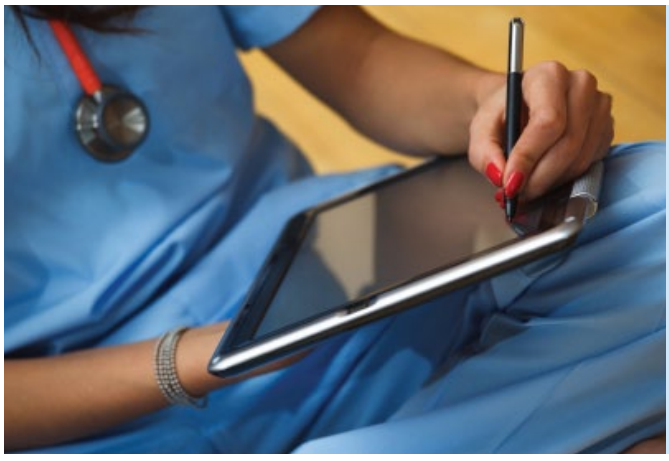
This isn't the place for an account of statistical methods but it's worth considering a few basic questions. The first is 'How many participants?', and for a comparison study, in order to answer it you need to decide: (i) what you're expecting to see in your control group; and (ii) what difference is worth looking for in the experimental group. This, and subsequent questions like how to present or compare the data really do require the input of someone who has done it before – and not necessarily a statistician. So time spent discussing the statistics is not only useful – it's vital. Sometimes the complexity of the statistics or the sample size required is such that a study has to be abandoned at this stage because the practicalities don't stack up.

The regulations

These are increasingly seen (by investigators) as barriers put in the way of honest folk whose only wish is to improve the world, but history is littered with dreadful abuses of research and publication ethics, as well as plenty of bad science. The most useful advice, as before, is to seek useful advice from someone who has done it before. In general, studies require ethical approval, hospital R&D approval, directorate/department approval, and possibly MHRA approval, depending on the type of study. Funding requirements add another layer of paperwork.

(Revised, with permission, from Anaesthesia News 2009, ***267:*** *13–4.)*

Steve Yentis
Editor-in-Chief, Anaesthesia, 2009–2015
Vice President, AAGBI



HOW TO CONDUCT AN AUDIT

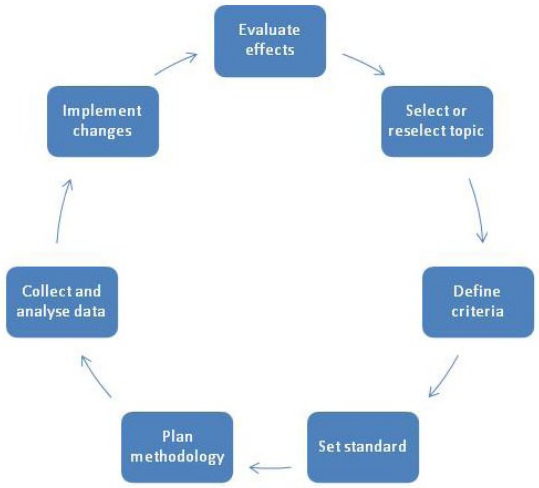
What is clinical audit?

'Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria…where indicated, changes are implemented…and further monitoring is used to confirm improvement in healthcare delivery.'
Principles for Best Practice in Clinical Audit (2002, NICE/CHI)

An audit is a well-established pillar of clinical governance, whereby an individual or a group of individuals review current practices and processes, and strive to improve them if possible. Clinical audit relates to clinical practice, and not only helps to improve the quality of care delivered to patients but is also invaluable in helping to maintain and monitor standards of care.

The audit cycle

Clinical audit is a cyclical process where standards are agreed and data collected. Analysis of these data shows whether the standards are being met. If not, changes are planned and implemented and data collected for a second time and analysed to see if any improvements have resulted from these changes (Figure 1). It is important to realise that data are collected and analysed on two occasions ('closing the audit loop'). A single data collection exercise does not constitute audit. The first data collection is to establish the current position and the second is to see if any improvements have been made.



Why should I do an audit?

Best practice and best outcome should be the goal of every clinician. Voluntary critical self-appraisal of one's performance is a useful way of ensuring this. Clinical audit enables one to achieve these goals. All consultant contracts in the NHS have clinical audit as part of their job descriptions, hence it is a good idea to get into the habit early. There is now a clear expectation that trainees will complete a yearly audit or quality improvement project during their training and that permanent clinical staff will undertake continuing audit during their NHS careers.

Audit or research?

There is a difference between audit and research. Research is a process that tries to find out what you should be doing to your patients. Audit is a process that tells you whether you are actually doing what you are supposed to be doing. Research seeks new knowledge or refines existing knowledge and audit reviews current practice to stimulate change.

Ethics committee approval

Strictly speaking it is not necessary to seek ethical approval for audit projects. However at times there is a fine line between audit and research. Most Trusts have a policy regarding approval for audit projects and you are advised to follow Trust policy in this regard. In practice a submission to the Trust's audit committee via the clinical audit lead is sufficient and for simple projects the chairman's approval should suffice.

Planning the audit

Careful planning is the key to finishing an audit project successfully. Any aspect of healthcare delivery can be a suitable subject for an audit. You may choose to start a new audit project from scratch. The RCoA *Raising the Standard: a compendium of audit recipes for continuous quality improvement in anaesthesia* is a great starting point to find an area you may find interesting. Alternatively there may be an opportunity to join an existing audit project that is already in progress in the department which you are working in or are planning to join. You may consider taking over from a colleague who is moving on to another hospital and is perhaps unable to complete the project they have started, or you may choose to re-audit a subject that has been looked at in the past. Your first port of call should be the clinical lead for audit within the department. This may not necessarily be a medical doctor but he or she will have the support of the department as a whole and will have been given responsibility to co-ordinate and monitor audit projects within the department. They may be able to suggest a possible subject that needs looking at, perhaps something that needs auditing or re-auditing which has been of concern to the department. They will also ensure that, should you have a subject in mind, it is not already in the process of being audited nor already been audited by someone else recently. The other group of people to talk to are the permanent members of staff in the department who will be familiar with what has been done over the recent months or years and may have suggestions for what needs to be audited.

Undertaking the audit

Audit should be done openly and transparently and should never be confrontational or threatening. Talk to as many people as you can about your plans and get others involved with the project. You have to carry your colleagues with you. This is especially important if the likely outcome is going to have an impact on their practice. Keep the project simple and stay focused. Do not be distracted by irrelevancies and minutiae. There is a tendency to collect far too much irrelevant data. This is counter-productive, wasteful and slows everything down. Confine data collection to what is pertinent to the audit project. Select a topic that is relevant and exhibits potential benefit to the patients, to the department or to the hospital, and if the topic falls within your area of interest or expertise, so much the better. High risk, high turnover, high cost practices are particularly good to audit as improving them can have a profound impact on the quality of care or the quality of service and can at times make a real difference. Do not tackle a topic where the likelihood of improvement is questionable or beyond control of yourself or the department. You should try and work within a given time frame. Audit projects that are started and never finished are a waste of time, effort and resources. If you feel that a project cannot be finished by you, e.g. because you have to move on to a different hospital as part of your rotation, recruit a colleague to take over so that the project can be completed. As a trainee this shows real dedication, motivation and assertiveness.

Presenting your work

Present your work at a departmental or a Trust audit or quality improvement meeting. This may be necessary if changes involve the whole department or other specialties. Invite as many participants as you can. Don't be inhibited to come back and

present your findings to the host department if you have moved on to another hospital.

Implementing change

If you have demonstrated that changes in your personal practice can enhance your clinical practice then implementing changes are not an issue. On the other hand, if changes are indicated across the whole department (or the whole hospital or Trust) senior clinicians and senior managers will need to get involved in implementing the change at such a high level and this can take some time. It is crucial that the effect of any changes implemented is re-evaluated after a given period of time, and in doing so completing the audit cycle.

Conclusion

Audit is part and parcel of modern clinical practice and plays an important role in improving quality of patient care. It has tremendous potential benefits for the clinician, patients and the organisation(s) in which we work. High standards and good quality of service are desirable goals and clinical audit is an invaluable tool in achieving best practice in our modern clinical environment.

Acknowledgment
With thanks to Dr Ranjit Verma (Consultant Anaesthetist, Royal Derby Hospital, Past AAGBI Council Member, RCoA Council Member) for his original article, upon which this chapter is based.

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ST5 Anaesthetics, Birmingham School of Anaesthesia
GAT Committee Elected Member

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HOW TO CONDUCT A QUALITY IMPROVEMENT PROJECT

'Every system is perfectly designed to get the results it gets, the only way to get real change is to change the system; to do this you need will, ideas and execution.'

- You must have the **will** to make the system better – this may be because you have identified poor performance or outcome through audit or patient experience
- You must have **ideas** about how you could change things for the better
- You must have skills to make it happen – **execution**

Paul Batalden, Institute for Healthcare Improvement

What is quality improvement?

Quality improvement is by no means a new concept. However, it is a concept which is currently being, and will continue to be, embraced within anaesthesia. Continuous quality improvement methodologies focus on making improvements in outcomes. This is in contrast to audit, where making a change is one of the key cornerstones in the audit cycle, regardless of whether there has been any real improvement in outcome. Although, within quality improvement changes are often made, these are less important than the improvement itself [1].

The RCoA recognises this shift away from audit towards quality improvement, such that the concept of improvement was introduced in the latest edition of *Raising the Standard: a compendium of audit recipes for continuous quality improvement in anaesthesia*.

Improvement science and models for improvement

Similar to the well-recognised audit cycle as a model of the process, several models exist for continuous quality improvement. However, it is imperative to remember that models only provide a structured approach to facilitate improvement. The most commonly quoted model is the Model for Improvement which was developed by Associates in Process Improvement. Part of the model uses a simple 'Plan-Do-Study-Act' (PDSA) cycle. This cycle is analogous to a rapid-cycle audit. You begin with a short cycle of data collection, then analyse the data looking specifically for immediate flaws and obstacles. Changes which may involve structures or processes can then be made before repeating the cycle. Larger quantities of data are collected by repeating the PDSA cycle numerous times. These small, frequent samples allow more proactive changes to be made regularly until improvement in outcome is attained.

A comprehensive description of improvement science and models for improvement are beyond the scope of this chapter. However, the Institute for Healthcare Improvement website and the RCoA's *Raising the Standard* provide valuable resources for those interested.

How to get involved in a quality improvement project

Most trainees are expected to complete at least one audit or quality improvement project per year. Similar to a clinical audit (see previous chapter) you may decide to get involved in an ongoing quality improvement project within your department, or start a new project.

When thinking of a new topic try to choose an area that has been identified as being a problem within the department, poses a risk to patient safety, or where processes are inefficient and waste resources. Also, choose a topic area where you as an anaesthetist can have the most influence. Discuss your project with a senior colleague who may be able to help drive the needed change.

Unlike an audit, the key to a quality improvement project is an understanding that each project is unique to the hospital it takes place within, and that what works well in one hospital may not in another.

The most important factors in success of your quality improvement project are your perseverance, motivation, commitment and ownership of the project. Although the PDSA cycle requires organisation and resources, the improvement in outcome should lead to the sustained success and ultimate longevity of the project.

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GAT Committee Elected Member

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THE RESEARCH AND AUDIT FEDERATION OF TRAINEES

Over the last 24 months we have seen the development of multiple regional anaesthetic trainee-led audit and research collaboratives. There are now 16 regional trainee research networks (TRNs) in the UK including SWARM, WM-TRAIN, NWRAG, STAR, SPARC, SHARC, WAAREN, PLAN, AARMY, INCARNNET, ARNni, SQuARes and SEARCH with new groups developing in Ireland (CAT-RAN), Mersey (MAGIQ), the East of England deanery (NEACTAR) and the Oxford deanery (OxCCARE). The National Institute of Academic Anaesthesia, RCoA and GAT have recently lent their support to a new, trainee-led, national umbrella group, the Research and Audit Federation of Trainees (RAFT), to network these regional groups into a national collaboration.

RAFT aims to facilitate trainee-led, anaesthesia-related projects on a national scale. It hopes to improve the opportunities for clinical trainees to engage in high quality, multicentre audit, quality improvement and research. It champions the newly evolving UK collaborative model – this model requires many clinicians over many UK Trusts to work together to recruit large numbers of patients for 'big data' studies. 'Team UK anaesthesia' has already had significant success in this and RAFT hopes to continue to push these boundaries while working in collaboration with its partner organisations, including the Health Sciences Research Centre and National Research Collaborative. A key element of this model is to recognise the contribution made by all and to publish as a group rather than individuals. The RAFT committee comprises two representative members from each regional group. It is managed by an elected chair, two vice-chairs and a communications lead. If any further regional collaborative groups are formed then they will be invited to represent their group within RAFT. The RAFT executive committee has now been supplemented by a RAFT IT reference group – the remit of this team is to drive forward innovative IT solutions that will support our national projects.

RAFT was initially founded on 2 December 2013 at a meeting hosted by the RCoA, where representatives from the majority of the existing regional groups met in order to discuss terms of engagement. Since then, RAFT has held their Annual Winter Meeting at the College and their Summer Project Development Meeting during the GAT Annual Scientific Meeting with the presence of a GAT elected member. At this meeting our annual project is chosen following a rigorous long and short-listing process. The aim of this GAT hosted meeting is to provide a mechanism by which regional projects can be evolved into national studies – any trainee can submit an idea to this meeting through their local TRN. Our first successful project involved quantifying the availability and use of cardiac output monitors within UK anaesthetic departments on a national scale (Cardiac Output Monitor Survey – COMS). Our next annual project (targeted for 2016) is IHypE (Intra-operative Hypotension in the Elderly) – this will be a snapshot observational study that will quantify the size of the problem and will be accompanied by a survey to investigate the perceptions of anaesthetists towards hypotension and its importance. Data on certain outcome measures will also be captured and we hope we will collect data from nearly all UK acute Trusts. Any trainee who does not have a local TRN can lead the project at their local Trust if they express an interest.

For further information on RAFT please visit http://www.raftrainees.com and follow us on Twitter

Sally El-Ghazali
GAT Committee Elected Member

HOW TO WRITE A PAPER

You've done the easy and interesting part and completed your study, but now you have to sit down, put fingers to keyboard and write the paper! Perhaps you see this as a daunting task but it shouldn't be because you've actually already written most of the paper. A well-written protocol should have the Introduction, Methodology and a lot of the Discussion ready for a bit of cutting, pasting and editing. Your literature search should contain most of the references you'll need and hopefully they have been entered into a reference management system ready to merge with your manuscript.

Where to begin?

Before sitting at your computer, you should first give careful consideration as to which journal you intend to submit. Take advice from experienced colleagues on this question. Also, ask yourself who is the intended audience for your paper? Is it for a broad church of anaesthetists (think *Anaesthesia*, *British Journal of Anaesthesia or European Journal of Anaesthesia*), or only of interest to a small subspecialty group (either an anaesthetic subspecialty journal or a relevant surgical journal)? Is it basic science or animal work (consider a basic science journal such as Nature)? Is it of interest to non-anaesthetists (perhaps suitable for the *BMJ* or *The Lancet*)? Sometimes a case report will have a greater impact on anaesthetic practice than a large randomised trial – for example descriptions of novel oxygenation techniques or unusual complications related to common conditions or drugs. If you feel a case report is an option for your research then you could consider submitting to Anaesthesia *Cases*.

Once you've chosen the journal, read it, get an idea of its style and layout and most important of all, **carefully read the journal's guidance for authors**. Then read the guidance for authors again and keep a copy handy to consult frequently during writing; it should become worn and dog-eared by the end.

Although acceptance of your paper will depend on its scientific value, it is helpful to make a good impression with reviewers. A poorly written paper with careless typos, misspellings and a disregard of the guidance for authors will leave a bad impression on reviewers. A sloppily written paper will suggest that the study has been carelessly conducted, lowering its scientific value.

A common misconception of budding authors is that a long paper is more impressive than a short one. Like many things in life, size isn't everything! Keep your writing succinct, use plain English, avoid over use of the passive voice, (e.g. 'we administered fentanyl to the patients…' is better than 'fentanyl was administered to the patients…'), take care with punctuation and avoid excessive abbreviations; all of which will help to make it easier to read.

Now it's down to the writing. Start with the Introduction, which should have three clear messages: i) what is already known about the subject, ii) what is not yet known, i.e. the questions needing answering, iii) and what does your study intend to answer? Keep it simple; three short paragraphs answering these questions.

The Methods should already have been written and can be lifted directly from the protocol and edited, keeping it simple so that it contains enough detail for anyone else to repeat your study. If someone has described part of the methodology before, you do not need to repeat the description but clearly reference it. Include at the end a succinct but accurate description of the statistical methods you used for your analysis. Where relevant, you should include enough detail of your power analysis to allow the reader to confirm how you arrive at your sample size.
Clarity is essential in the Results section. Use clear group names,

(e.g. group morphine and group fentanyl rather than groups A and B or groups M and F). Make sure that you retain a consistent order of reporting, particularly when there are more than two groups. Avoid unnecessary duplication of results: perhaps use a table to provide details of numbers and simply give a brief summary of main or important findings in the text. It is important to ensure that tables are laid out as per guidance for authors. If there are figures or photographs, make sure they are of sufficient resolution for printing (again refer to the guidance). Most journals reproduce images in black and white and it is important to check that the image remains clear with important detail retained when it is converted from colour.

Keep the Discussion simple; don't be tempted to draw it out for the sake of it, believing that a long discussion is more impressive. You should consider what your results mean, how they fit in with existing knowledge and why, not if, they don't fit. It is important to be up front and point out the flaws in your study as no study is perfect and it is better to acknowledge these flaws and try to convince the reader why they do not distract from the validity of your finding. Finish your discussion with a concluding paragraph, reinforcing the main findings and suggesting areas for future research.

Inserting references should be straightforward, especially if you've been entering the results of your literature search into Reference Manager or Endnote, which should allow you to format the references correctly for any journal at the click of a mouse. Don't feel that you have to use every reference in your search; keep to those that are directly relevant to your paper and discussion.

Finally, think of a simple, accurate title (avoid newspaper headline style titles) and write the Abstract using a structured or unstructured format as prescribed by the journal. Your Abstract is the gateway to your paper; it may in fact be the only thing read by many but can also draw the reader into exploring further. It therefore needs to summarise why you did the study, your methods, main results and conclusions, keeping the order of groups as described in the paper and ensuring that the results are the same – it's surprising how often there are discrepancies because of transcription errors.

There, it's all done and ready to be sent off to your chosen journal. Eh, no…, not yet. Re-read your paper, get all co-authors to read and edit in turn, and lastly, get a lay person to read it (partner or friend); they may not be able to understand the technical aspect of the paper but they will be able to tell you whether it is clearly written.

After submission, you can heave a big sigh of relief and await the verdict. If it is not accepted, do not despair or take it as a personal rejection. It does not necessarily mean that your paper is worthless; there are many reasons for rejection. Despite your careful selection, it may be felt inappropriate for that particular journal, or you may have just been unlucky with the choice of reviewers; the difference between acceptance and rejection is sometimes a fine one and quite subjective. Hopefully, the editor has given you constructive comments and an explanation of why it was rejected. If not, it is worth writing back and politely requesting feedback. Use these comments to revise your paper and prepare for submission elsewhere, but only after you've carefully read the new journal's guidance for authors and reformatted your paper accordingly!

(Reproduced, with permission, from Anaesthesia News 2010; ***273:*** *16–7.)*

Paul Clyburn
Former Editor, Anaesthesia
President Elect, AAGBI

HOW TO PLEASE THE EDITOR

There are many ways of pleasing an editor but let's confine it here to submitting an article for publication. I won't go into the reasons why it's important to conduct and write up projects, or how to design studies; let's assume that you've completed your study and are now preparing it (and yourself) for the final challenge: convincing the reviewers/editors that it's worthy of inclusion in a reputable journal. First, a little about how the process works.

How to submit a manuscript and what happens when you do

Nowadays submissions are almost all electronic, either by email plus attachment or a web-based system of filling in blank boxes and uploading files. Each has its own advantages and disadvantages – to both the journal and the author. Either way, you should receive a notification confirming receipt and giving you the number assigned to your manuscript; make sure you quote this number whenever you contact the editorial office. You may have to submit a declaration form at this stage, vouching for your work's originality and that it's not being considered by another journal – if the journal asks for one, make sure you send one. A particular area of confusion is the submission of a letter based on work already published as an abstract, e.g. a poster at a conference or meeting – in general, this isn't allowed, unless the two items are sufficiently different as to constitute two separate pieces of work. As ever – if in doubt, ask the Editor-in-Chief.

Your manuscript will then be reviewed by a number of people, depending on the journal. For some journals, the editor-in-chief will screen all manuscripts first and reject the hopeless, unethical and unintelligible ones at this stage. For others, they'll all be reviewed by two or more editors and/or external reviewers, with the final verdict made by the editor-in-chief, taking the others' opinions into account. This process can be lengthy, especially if: the paper is complicated; there are only a few experts in the topic to ask for an opinion and they're all busy; the external reviewers are slow to provide an opinion; the reviewers disagree and it has to go for a further opinion(s); the editorial office is dealing with a large backlog or even a crisis, (e.g. technical); or your email (or the one to/from reviewers) gets lost in the ether. Most journals should be able to give you a verdict within one to two months at the most; in general, if you've not heard anything then a polite enquiring email to the editorial office won't offend anyone.

Rejection

Rejection is never easy to take and one usually goes through the classic stages of shock, denial, anger, depression and acceptance (not by the journal, alas). There are two bits of advice I can offer at this stage: first, remember that reviewers and editors do miss the point sometimes, but they are very experienced at what they do and have seen hundreds of manuscripts. If they have missed the hidden value of your manuscript then it's probably because you haven't made it clear enough. Take the comments you receive, use them to improve your manuscript, and submit it somewhere else – or even to the same journal if you feel strongly enough. Second, the good journals have a very low acceptance rate (for Anaesthesia it's about 15–20%), so there may well be nothing actually wrong with your manuscript, it's just that it's been felt to be not quite as good (or interesting) as other submissions.

Acceptance

If your manuscript is accepted the work doesn't stop there. You'll get a list of requirements from the editor, e.g. removing this or explaining that – do exactly as the editor asks, and don't take too long. Despite the conviction of many authors that journals are slow, ponderous beasts (admittedly, some are; mind you, so are

some editors), the most common reason for delays in publishing papers is a lack of response, or a very slow response, from the authors. The same applies to proofs, which will usually be sent to you a month or so after the final version of your manuscript has been sent to the publishers. Make sure you turn them around quickly, or your editor will be displeased (see chapter title...).

How to do it

Having rambled on about the process, I'll now give you my guide to how to please the editors.

1. **Follow the instructions**
   You'd have thought this was self-evident, wouldn't you? Amazingly it's very common for authors to send in manuscripts without the required accompanying declaration, with the wrong reference style and the wrong units, with American spelling, and the graphs and tables in the wrong format. At best this will irritate everyone at the journal and could influence the verdict; at worst, it might even lead to an instant rejection. All journals have instructions/guidance on their websites; find them and read them. Then read them again. Then download or print them and read them at intervals while preparing your manuscript. Then read them once more before you send it in. If there's a checklist to complete before submission, use it and make sure you've done everything required.

2. **Construct your paper well**
   I won't go on here about what to say in each section of the manuscript; go and take a look at *Anaesthesia's* Guidelines for Authors. Or you could look at any other journal's guidance; they all tend to say the same thing. At *Anaesthesia* we've tried to make our guidance helpful too, rather than just prescriptive. Remember, the aim of your writing is to explain clearly to the editor/reviewer/reader what you did and why it might be important; if it's not clear then that in itself can be a reason for rejection, or at best it'll lead to a request(s) to clarify various aspects of your work. The best papers are simple and easy to follow; they avoid complicated sentence structures and refer to the groups and outcomes in the same order throughout the text, so the reader doesn't get confused where they are.

3. **Seek help**
   You simply must seek the advice of someone who has done it before. What else can I say?

4. **Give yourself time but get on with it**
   Most people cannot churn out good, readable text in a day. If you've set out in the right way, you'll have written a decent protocol before you started the study and you can use that as a basis for constructing the final manuscript. But it takes time. My advice is always to start off by writing stuff down as it comes to you, and not to worry too much about structure etc to begin with – just get it down. You can shape it later, with an experienced person's input. Often it's helpful to leave it alone for a couple of weeks, and then take a fresh look. Having said that, you cannot leave it too long – first, because someone else may publish on the same topic before you, and second, because a study done several years ago will be of less relevance and therefore interest to the reviewers/editors. Third, you will not please your co-authors, especially the one guiding and mentoring you. I speak from experience: there are few things more irritating than junior colleagues who promise to write up their study but then disappear overseas without even starting, taking all the data with them.

5. **Be ethical**
   I'm referring to two areas that cause problems: first, research ethics: ensuring that your study has the appropriate ethical approval; and second, publication ethics: making sure that you haven't copied any text from another source, haven't left out authors who should be included, or included those who shouldn't, and certainly haven't made up or manipulated any data. You can get into serious trouble for this kind of thing, as can your colleagues, so take care. *Anaesthesia's* website has some guidance that we hope will be useful.

6. **Follow the instructions**

7. **FOLLOW THE INSTRUCTIONS!**

8. **Have fun**
   Yes, it is possible. And good luck.

Steve Yentis
Editor-in-Chief, Anaesthesia, 2009–2015
Vice President, AAGBI

TAKING CARE OF YOURSELF

"Wellbeing requires four components: a good working environment and work arrangements, support for staff to maintain good physical and mental health, good working relationships and good personal support; we can all contribute to this."

Nancy Redfern, Chair of the Wellbeing and Support Committee, AAGBI

TAKING CARE OF YOURSELF

KEEPING OUT OF TROUBLE

It is time for a confession – even I have been in trouble during my 30-year career in anaesthesia. There have of course been lots of minor episodes of trouble, like the time I accidentally dissolved an antibiotic in a long-acting non-depolarising neuromuscular blocking drug (pancuronium) instead of water and gave the resulting mixture five minutes before the end of the operation. I was stuck in PACU ventilating the patient's lungs for two hours afterwards and was the butt of not a small amount of ridicule from my peers, and subsequently the subject of a trip to the Lead Clinician's office for a rap across the knuckles. There have also been more serious episodes, including one accusation of gross professional misconduct and one of attempted murder – I kid you not! Tempt me into a pub one day and ply me with a beer or several and I will reveal all. Suffice to say, in summary, that I was innocent of both charges but learned a lot about life in the process of defending both cases. The truth in anaesthesia (and critical care and pain medicine and any other medical subspecialty) is that it is much better to keep out of trouble than it is to learn to be adept at getting out of trouble once you are in it. I have a few tips for keeping out of trouble that I will share with you.

Look after your patient and yourself

Although a relatively recent novitiate into the motorcycling fraternity, I have already learnt some of its mantras. One of my favourites is: don't ride drunk, don't ride tired, don't ride sick, and don't ride upset. The principle is that riding a motorbike requires a great deal of concentration if you are going to stay on it and avoid an impromptu flying lesson that will undoubtedly end in pain and physical damage. You cannot concentrate on this important task if you are drunk, tired, sick or distressed. There are obvious parallels to treating patients, with one notable difference. With motorcycling, you risk your own life; when treating patients you risk their lives – but you also risk your career. If you find yourself required to work but feeling impaired for whatever reason, tell someone and see if you can find a way of not treating patients until you feel well enough to do so. As a trainee, there should always be a consultant to whom you can turn and who can rearrange service cover to make sure that patients are protected and that you are given the chance to recover.

However, looking after yourself goes beyond just making sure that you are fit to work on a particular day. It extends to developing a lifestyle that means that you are as fit as you can be all the time. You need enough sleep, a reasonable amount of exercise, time for friends and family, a good diet, a passion outside of medicine and a lifestyle free from drugs, smoking and anything more than a modest amount of alcohol. These may seem like trite recommendations, but a visit to the GMC's website, and in particular the judgements of the Fitness to Practise panel, will show you that many of the doctors who get into serious difficulty find it impossible to comply with these recommendations. Your health and sanity is very much conducive to the wellbeing of your patients. If you find yourself failing to live up to these recommendations, I would strongly advise you to seek help of some sort, even if it is talking to a sympathetic friend who knows you well enough to support you and point you in the right direction.

Don't get out of your depth

No anaesthetist can do everything and no anaesthetist should be expected to be able to do everything. This is true for all anaesthetists but is particularly true for trainees. There will be times in the professional career of every anaesthetist, whether they are a consultant, specialty doctor or trainee, that their skills, knowledge and experience will not be sufficient to provide a patient with the best care available. When this happens to you (and note that I say 'when', not 'if'), you must seek help and advice from others. There should be a consultant available to you 24/7 to offer advice and practical support. Okay, some consultants get a little grouchy when called at 4.00 am. However, just think how much grouchier they will be if you call them at 5.00 am having messed up a case with which they could easily have helped you. Practise within the boundaries of your abilities and when you think that you may be getting out of your depth, be completely honest about it. Both you and your patients will benefit as a result.

'Fess up

This is an obvious one: if you mess up, 'fess up. Take responsibility for your victories and your mistakes. It is an entirely natural tendency to avoid contact with a patient whom you may have harmed or annoyed as a result of an error. Don't do this. Patients and their relatives will understandably see this as you being evasive and defensive. Talk to a consultant about what happened, then go and see the patient and their relatives and explain the situation honestly. Sometimes it may be appropriate for you to face the patient alone; but usually you should have a consultant or other senior member of staff with you and this meeting, you should apologise for what happened. This does not amount to an admission of negligence, and your honesty and openness will often satisfy the patient and persuade them not to take any further action.

No one's perfect

This follows on from the above point. No one is perfect; everyone makes mistakes. Making a mistake doesn't usually mean you are a bad person or a bad doctor; it just means you are human. By all means make every effort to avoid mistakes, but do not be too hard on yourself if you do make a mistake under difficult circumstances. Similarly, be understanding of others who make honest mistakes.

Don't get proud

A wise man (my father-in-law) once told me: 'never, ever think you are the best anaesthetist in the world, just be very grateful indeed that you are not the worst – there will always be people better and worse than you are'. Even if you are very good indeed, there will be days when nothing goes right – when it feels like you are wearing boxing gloves and none of the lines will go in. Don't get proud – get someone else to help you. The person you ask to help you doesn't always have to be more experienced than you. I have often had difficulty putting a line in and have asked a trainee to help, only to watch the trainee put it in at their first attempt. This is good for the trainee and good for the patient and, after a while, your confidence will become immune to the odd dent, which will do it a deal of good.

Keep good records

When you make clinical decisions, you are – I am sure – going through a problem-solving process and reaching logical conclusions that dictate your management. However, years down the line, if something goes wrong and you have to defend your practice, your memory will have faded. If you are a good practitioner, then good, contemporaneous record keeping is your best protection. Good records will also mean that the next doctor who sees your patient will know what's going on and will

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be able to provide continuity – especially important in an age of shift-working. A good rule of thumb is that an anaesthetist who does not know you but who has read your anaesthetic chart should be able to give an identical anaesthetic based on the information in the chart. A good, tidy and complete anaesthetic chart, in particular, is often the mark of a good, tidy and complete anaesthetist.

Treat consent seriously

From both the ethical and legal viewpoint, the process of consent is very important. You are responsible for explaining what you are going to do to your patient, telling them what you hope to achieve by it, what might go wrong, and what the alternatives are. Be guided by this simple question: 'If I were this patient, in their position and with their concerns, what would I want to know in order to make a decision about this treatment?'. The debate between written and verbal consent is too complex to consider here (read the AAGBI guidance on the subject), but the most important precaution is to keep a record of what has been discussed. Patients have notoriously terrible memories about what they've been told and, if a recognised complication occurs, you'll want to be able to demonstrate that you warned them about it in advance.

Follow guidelines

You may think you know best – and, to be fair, sometimes you do – but a lot of experts went to a lot of trouble to draw up those guidelines, and it's their support that you want and need when things go wrong. They are more likely to look favourably on you if you weren't following some maverick path of your own at the time. Of course you are a professional, and of course guidelines can't deal with every situation, but if you are going to deviate, make sure that (a) it's for a good reason and (b) you make a good note of why you did it.

Communicate

No anaesthetist is an island. We can only work well if we work with others, so ensure that lines of communication between you, the surgeon, the theatre staff, the wards, the labs and the myriad of other essential members of the team do not break down. The anaesthetist is arguably best placed to act as the hub for sharing and disseminating information. It's a noble and important role; fill it with distinction.

Never refuse a coffee break

When I started anaesthesia, I was told that there were three golden rules (in the following order):

- Never refuse a coffee break
- Maintain a clear airway
- Give oxygen

I have often thought the order might not be entirely correct, but I have never knowingly refused a coffee break when it was safe to leave the patient with another anaesthetist. You never know when your next break will come and you will function better if you have frequent breaks.

Be nice

It is a fact of life that the nice doctor who makes an error is far more likely to come out of it smelling of roses than the nasty doctor. You are bound to need the help and support of your colleagues at times, and they won't rush to help you if you've alienated them. The same applies to patients, who seem to be far more forgiving if they like you.

Listen to the GMC (really)

The very first line of the GMC's key document *Good medical practice* says this: 'Make the care of your patient your first concern'. This is the best advice available if you wish to keep out of trouble.

I am sure that you could add to this list pieces of advice that will help others keep out of trouble. However, I will leave you with one more morsel of advice that is worth heeding if you want to stay out of trouble: treat others as you would wish to be treated yourself – and this holds true for both your patients and those with whom you work.

Be safe out there!

William Harrop-Griffiths
Past President, AAGBI

BECOMING A PARENT

Having a baby is an exciting time. Planning your future at the same time as working in a demanding job can be challenging, especially if pregnant. Negotiating your way through the maze of paperwork surrounding your rights and benefits on maternity leave, and maternity support can be difficult to fit in between antenatal appointments, busy shifts and preparing for a new arrival.

This chapter aims to clarify some of the main issues facing the parent-to-be and provide guidance on your rights and responsibilities towards your employer.

Maternity leave and pay

- You are entitled to 52 weeks of maternity leave. Two weeks in the period immediately after the birth is compulsory. You may be entitled to both Statutory Maternity Pay (SMP) and NHS occupational maternity pay. The former is a statutory right [1] and the latter a contractual right [2], the details of which are summarised below
- You must notify your employer in writing before the end of your 25th week of pregnancy of your intention to take maternity leave, and the date when you wish this to commence. This can be any date after the beginning of week 29 of your pregnancy. You can change the start date provided you give your employer 28 days notice
- If you are not intending on taking 52 weeks of maternity leave then you must also inform your employer of when you plan to return to work. You can change your mind about this date later on as long as you give eight weeks notice
- You should also include the original copy of your Maternity

(MATB1) certificate with any documentation to your employer. This states your expected date of delivery. Your midwife or GP can issue it from the 21st week of your pregnancy. Proof of pregnancy is needed to claim SMP
- SMP is claimed by your employer on your behalf. They can only do this if you have 26 weeks continuous service within your current employing Trust by the end of your 25th week of pregnancy. This entitles you to 39 weeks SMP paid regardless of whether you intend to return to work or not
- If you have rotated Trusts and do not qualify for SMP then you are entitled to claim maternity allowance via your local Job Centre Plus, as long as you have been employed for 26 of the 66 weeks up to the week before your due date. Maternity allowance is the lesser of 90% of average weekly earnings or SMP
- If you take Shared Parental Leave (SPL) you will get Statutory Shared Parental Pay.
- To be eligible for NHS occupational maternity pay you must have one year's continuous service in the NHS (can include a break of up to three months) by week 29 of your pregnancy. If you have rotated Trusts during this time but have continuous NHS service you will remain eligible for occupational maternity pay. This entitles you to eight weeks full pay followed by 18 weeks half pay then 26 weeks unpaid leave. By prior arrangement this can be paid in a different way, e.g. a fixed monthly amount over the entire leave period [2]
- During maternity leave you retain all your contractual rights and benefits except pay
- You are entitled to a reasonable amount of paid time off to attend antenatal appointments. What is considered reasonable is not defined in law and so common sense and consideration to the working of your department should be applied
- You can work up to ten days during maternity leave. These 'keeping in touch days' are optional and both employer and employee must agree to them
- Annual leave continues to accrue during maternity leave but you may not be able to carry leave over into the next leave year. It is common for people to add annual leave to the start or end of maternity leave but you need to discuss this in advance with your employer
- If, after maternity leave, you do not wish to return to work, your NHS employer is entitled to retrieve the occupational maternity pay awarded. To avoid this you must return to work for at least three months within 15 months of the start of your maternity leave
- Be aware that salary sacrifice schemes (e.g. childcare vouchers) may affect the amount of SMP and occupational maternity pay. These are calculated by looking at your average weekly earnings based on income subject to national insurance contributions. Often salary sacrifice is taken prior to national insurance contributions. The relevant period for the calculations is usually the eight weeks prior to the qualifying week (i.e. weeks 17–25). This is relevant for maternity support, adoption and shared parental pay [2]

Employer's responsibilities

- The laws that protect you at work only apply once your employer knows you are pregnant
- Once your employer knows you are pregnant, a risk assessment should be conducted. If any risks are identified they must be removed or alternative working arrangements agreed to protect the safety of you and your baby at work. It is important to do this – otherwise you may expose your baby to an illness that is devastating to a foetus (e.g. cytomegalovirus)
- Once you have informed your employer in writing of your intention to take maternity leave they are obliged to confirm in writing within 28 days your paid and unpaid leave entitlements, annual leave owed and expected date of return to work

Occupational hazards

Anaesthetists work in many different areas of the hospital and thus face a variety of potential hazards.

- **Shift working/on-call commitments:** On-call commitments can be very demanding for the pregnant anaesthetist. There is little information guiding expectant anaesthetists as to when it is reasonable to cease out of hours work. There is some evidence to suggest that long hours (> 40 hours/week) may pose a low to moderate risk to mother and/or baby. However there is insufficient evidence that this is the case for shift work, although it may become exhausting in later pregnancy [3]. A survey conducted by anaesthetic trainees found that in one region the median for trainees stopping daytime on-call was 32.5 weeks gestation and night shifts was 30 weeks gestation [4]. In some cases it may be necessary to give up on-call commitments at an earlier gestation to ensure a healthy pregnancy. A letter from your midwife or GP will support your case for a change to your working pattern. This may mean, however, that those months without an on-call commitment do not count towards your CCT and this should be discussed with your training programme director
- **Anaesthetic gases:** With the advent of scavenging, the risks associated with anaesthetic gases, spontaneous abortion and pre-term labour have reduced considerably [5,6]. Exposure may be increased in certain areas, such as paediatrics. The most significant period is the first eight weeks of pregnancy [7]
- **Radiation:** Ionising radiation is both toxic and teratogenic. The most dangerous period is the first eight weeks of gestation. The Ionising Radiation Regulations Act [8] states that once your employer knows you are pregnant your occupational exposure should be controlled so that the dose to your baby is less than 1 mSv for the remainder of your pregnancy (one chest X-ray is approximately 0.1 mSv). In practice, if normal safety precautions are followed the exposure at work is likely to be considerably less than this even for staff such as radiographers. A 5 mm lead apron should be worn if within six feet of an X-ray source. If in doubt consult your local Occupational Health department for advice but, in general, limiting exposure by avoiding certain theatre lists is not always possible, practical or necessary. No evidence of any harmful effects of magnetic resonance imaging to the foetus has been demonstrated. However, there is lack of evidence regarding long term effects of this [8]
- **Methylmethacrylate (bone cement):** There have been concerns regarding the possible teratogenic effects of exposure to bone cement although there is little evidence in humans to support this [9]
- **Manual handling:** the hormonal changes of pregnancy make the pregnant body more susceptible to injury. It is also associated with a small risk to the foetus. Manual handling should be avoided where possible. Prolonged standing should also be limited [4]

Medical Defence/GMC/AAGBI/pensions

- The medical defence organisations (Medical Defence Union, Medical Protection Society, Medical and Dental Defence Union of Scotland) regard maternity leave as a career break and therefore you are not required to pay your subscription fee as you are not undertaking any medical practice. It may be possible to claim this retrospectively if you were unaware of this. You must remember to reinstate your cover on your return to work
- The AAGBI offer a reduced subscription rate for members on maternity leave. Contact the membership department at members@aagbi.org
- It is worth also contacting the GMC and RCoA to find out if

you are entitled to a reduced fee/subscription rate for the period of your maternity leave
- You and your employer continue to contribute to the NHS pension scheme for the period of your maternity leave if you are a member

Maternity support (paternity) pay and leave

- If eligible, this entitles father's or the mother's spouse/partner who will be responsible for the baby to one or two weeks paid paternity leave [10]
- This needs to be taken in one go, starting after the birth and ending within 56 days of it
- To be eligible for leave, you must be an employee and have worked for your employer continuously for at least 26 weeks by the end of the 15th week before the expected week of birth
- To be eligible for pay you must also be employed by your employer up to the date of birth
- To claim, you need to inform your employer at least 15 weeks before the week the baby is due, when you want the leave to commence (e.g. the birth day or a set time after), and if you want one or two weeks leave. Check with your employer as to any forms that need submitting for pay
- Employers need 28 days' notice if you wish to change the start date
- If you have 12 months continuous NHS service at the start of the week in which the baby is due you are entitled to two weeks' occupational ordinary maternity support pay (full pay less any statutory pay received) [2]
- You are entitled to time off to accompany the mother to two antenatal appointments of up to six hours each. It may be unpaid

Shared parental leave

- If eligible you can end maternity leave early and take the rest of the 52 weeks as SPL [11] and the rest of the 39 weeks of maternity pay as Statutory Shared Parental Pay
- SPL can be taken in up to three blocks rather than in one go. It does not have to be shared with a partner but, if it is, each can take leave at different times or both together
- Up to 20 optional 'Shared Parental Leave in touch' days can be taken

Adoption and surrogacy [12]

- Statutory adoption leave is 52 weeks and pay for up to 39 weeks in line with maternity arrangements
- Only one person in an eligible couple may take it
- It can start up to 14 days before the child starts living with you, or within 28 days of the child arriving in the UK in overseas adoptions. If using a surrogate it is the day or the day after the child is born
- SPL (as above) could be applied for
- For hospital doctors employed under national terms and conditions, adoption leave and pay will be in line with the maternity leave and pay provisions documented earlier
- Adoption of a family member, stepchild or private adoptions do not qualify

Loss of a baby

You can still claim leave and/or pay if your baby is stillborn from 24 weeks of pregnancy or born alive at any point in pregnancy. It is important to make use of this; loss of a baby is a traumatic experience [1,13].

Returning to work

For information on returning to work following maternity leave refer to the chapter in this Handbook about 'Returning to practice following a prolonged absence'. Breastfeeding mothers must be risk assessed upon return to work and suitable facilities provided [14].

For more information on maternity rights the following provide useful up-to-date information:

- BMA. *Guidance for working parents*
- https://www.gov.uk
- NHS Staff Council. *NHS terms and conditions of service handbook*

Acknowledgement
Thanks to Susan Williams (previous GAT LTFT representative) and Sarah Gibb (previous GAT Chair) for the original articles on which this chapter has been based.

Surrah Leifer
GAT Committee Member

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TRAINING WITH A LONG-TERM ILLNESS

By and large, young doctors enjoy the privilege of good health so most have little experience of what it is like to be the patient. Many will not be accustomed to this role or the multitude of, often, conflicting emotions and anxieties which illness brings with it. For many it will be the first time we confront these feelings despite dealing with patients every day of our working lives. For those anaesthetists unfortunate enough to be in this situation I hope this chapter will address some of the concerns you have about your absence from work and getting back to work where possible. Some of it is the nuts and bolts of your responsibilities and rights as an employee, some of it just common sense and what was helpful to me.

Contractual obligations

- You are able to self-certify a leave of absence due to illness of up to seven calendar days. This should be submitted after the absence extends beyond the third calendar day
- Beyond this you are required to submit medical certificates, completed by a doctor other than yourself, covering the duration of your absence
- You should inform your line manager of your expected duration of absence as soon as possible. Timely communication will greatly facilitate the rearranging of rota commitments and other responsibilities
- Although the details of your illness are entirely confidential, if you can, it is helpful to communicate with your employer in a transparent and honest way. It is much easier for people to help you when they know and understand your situation
- You are not obliged to involve occupational health at the outset, although your line manager might suggest it. From experience, there is much to be gained from involving the occupational health consultant physician early in the course of events. Details of your situation are strictly confidential, unless you give express permission for the sharing of this information. Only the impact of your illness on your ability to carry out your duties will be communicated, and this will be undertaken directly with your line manager
- Your line manager is entitled to refer you to occupational health for an assessment, particularly with regards to your return to work

Sick leave entitlement

- This is formally laid out in the terms and conditions of service of your contract
- In general, sick leave entitlement depends on your duration of service. The maximum benefit within the NHS is achieved after five years of completed service. This entitles you to six months' full pay (including supplements e.g. banding) and six months' half pay
- Injury on duty, accidents sustained due to sport (professional) or a case in which contributory negligence is proved, are dealt with individually. Specific conditions apply to absence where an injury has occurred resulting from violent crime
- Unpaid sick leave may be negotiated
- Due to the relatively short period during which you are entitled to full pay on sick leave, it is important to consider an income protection policy that will serve to top up your salary when, and if, your organisational benefit expires. Long-term illness is usually unexpected so, particularly if you have dependants, please consider this seriously

Psycho-social considerations

- Serious illness can be very isolating. The world around you carries on apparently seamlessly without you despite the events taking place in your life. This happens at a time when you have new anxieties and are physically frail and can lead to a profound sense of loneliness, loss of confidence, feelings of worthlessness and depression
- For a multitude of reasons, the impact of your illness may precipitate strain in your closest relationships, rendering your usual support systems less useful at a time when you need them most. Contact with work colleagues can be lost, leaving you without that network of support
- Do not underestimate the knock-on effects of all of this on you and your life as it was. Be open to the idea of talking to someone neutral about how you're feeling. It might be your training scheme mentor, it might be a senior medical colleague. You may consider approaching the BMA's Doctors for Doctors advisory service, or you may choose a professional counsellor
- Occupational health can assist you in accessing the services available within your Trust and LETB, e.g. confidential in-house counselling sessions with a clinical psychologist that are free of charge to employees

Getting back to work

- Your health, recovery and wellbeing should undoubtedly be your priority. Your responsibilities to your family, your friends, your colleagues and your employer will weigh heavily on you, but without your health you will not be able to sustain any of these
- Do not even consider returning to work before you feel completely ready. Take your time. Doctors, particularly, are prey to an irrational sense of indispensability. The truth is that when you're back, it is as if you were never away. Once you are present on the shop floor the work environment will overtake you and, in practice, there is simply no half measure in clinical medicine
- It is essential that you undertake a phased return to work. In this regard, advice from occupational health is essential. They do know what they're talking about, even if you think that a month (or several) building up to full-time duties is ludicrous. Listen to them. Everyone who returns describes a feeling of immense tiredness in the first days and weeks after return to work; building up stamina takes time
- You do not have to resume working in an identical role. Again the consultant occupational health physician can assist and advise you. Less than full-time training or specific exclusions to your duties might be appropriate
- You are not going to be operating at your usual peak performance immediately. Don't place yourself under undue pressure by committing to new projects or taking on new responsibilities. For a period of time just adjust to working again, and coping with it physically. In my experience, it took longer than I thought

There are various websites that provide useful resources on this topic:

- *Terms and Conditions of Service: NHS Medical and Dental Staff (England) 2002*
- *BMA Junior Doctors' Handbook*
- Doctors for Doctors or tel: 08459 200169 (this is now a 24/7 service)
- AAGBI. Wellbeing and Support

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ST7 Bristol School of Anaesthesia

RETURNING TO PRACTICE FOLLOWING A PROLONGED ABSENCE

As a trainee, returning to practice following a prolonged absence from anaesthetics can be daunting – especially with the prospect of solo lists and on-calls. This may apply regardless of whether you are returning to work from maternity leave, following a period of ill-health or have been pursuing other professional goals such as research or a period of intensive care medicine training. In the past, information about the effect of taking time out of work was limited to anecdote. Recently, however, several regional surveys on this subject have been completed. Examples include a survey from the West Midlands in 2012 which found that the length of time trainees felt it took for their confidence to return ranged from a couple of weeks to six months [1]. Another example from a survey of trainees in London in 2014 noted a trend towards lower levels of self-reported skills, knowledge and, especially, confidence in trainees who had had time away from work, compared with those who had maintained professional activity [2].

In 2012 the Academy of the Medical Royal Colleges (AoMRC) published guidance on returning to practice, including those returning to their usual practice after working in a different clinical field. The AoMRC was concerned that there was a perceived lack of guidance on supporting a return to practice, potentially compromising patient safety, and so established a working party. The recommendations of the working party define a prolonged absence as more than three months and give examples of checklists which should be used pre and post absence to allow an individualised action plan to be formulated to support the doctors' return to practice [3]. The RCoA subsequently updated their return to work guidance using the framework suggested by the AoMRC [4].

Return to work programmes

Since the publication of this guidance, many regions have now introduced return to work programmes. The idea of a programme is that it provides structure to the return to work process, and enables development of a mutually agreeable plan for both the individual and the department. Programmes are usually divided into several stages, each involving a meeting between the person returning and their supervisor. For anticipated leave, a pre-leave planning meeting should occur to discuss ways of keeping in touch. For all periods of leave a meeting should occur at least a month before the return date to discuss what preparation will be needed and confirm the arrangements for the return to work period and then there should be a record of the re-introduction period. A good example of a return to work programme is the one used by the Wessex School of Anaesthesia which is used for anaesthetists with no ongoing health, conduct or capability issues who expect to return to practice in a short period of time. You can read about it in Anaesthesia News [5] and access examples of the paperwork (flowchart, pre-absence and return to work forms) used to support a successful return to work on the AAGBI website [6]. The West Midlands have a return to training policy with a similar structure [7], and the London LTFT Forum also has information about how they manage a return to work on their website [8].

Returning to work following maternity leave

This is the most common reason for trainees to have a prolonged period of absence from training. Most will expect, or be expected, to return to practice within a short space of time. As this is a planned absence it is worth giving your return to work some thought even before you go off. In particular think about whether you plan to return to work less than full-time as the application for this will take some time. (See chapter on 'Less than full-time training').

Think about the things you can do during your maternity leave to keep up to date. This may simply be making the effort to do some reading. However, you may also wish to attend some courses or meetings or take advantage of keeping in touch days. You are contractually entitled to up to 10 keeping in touch days during your maternity leave. These must be agreed prospectively with your employer and can be used to have some supervised clinical time or to attend courses etc. appropriate to your stage of training. You can negotiate with your employer to be paid at the basic daily rate for each keeping in touch day taken.

Prior to your return to work it is important you make contact with your Training Programme Director and College Tutor/ Educational Supervisor at the hospital you will be working at to ensure your return is as smooth as possible. The level of support you will require will depend on various factors including length of absence and stage of training. It is useful to agree an appropriate period of supervised practice prior to returning to out of hours work. Identify your training needs early to ensure you receive the correct training placement. If you are returning to work less than full-time it may take you longer than you expect to regain your clinical confidence – this is not unusual.

The *Bulletin* of the RCoA has published articles with more advice on preparing for maternity leave [9] and a personal view of returning to work following maternity leave [10].

Returning to work following an illness or with a disability

Returning to work following an illness or with a disability is more complex and trainees in this situation are likely to need more support than those returning from maternity leave. The type of absence is likely to be unpredictable in its onset and length and pre-leave planning will not be possible. Early and regular communication with your Training Programme Director and Human Resources department is advisable.

Occupational Health will manage your situation in confidence and may prove very useful in helping to arrange an individually tailored return to work programme. The consultant occupational physician's expertise is on the impact of health on work and of work on health, so they are a very useful source of advice and support. The chapter 'Training with a long term illness' offers further advice. In addition there have been several articles detailing a return to work following illness or disability through the eyes of those who have experienced it: Returning to work in a wheelchair [11]; Returning to work – as a disabled anaesthetist [12]; Returning to work – a personal view [13].

Returning to work courses

There are increasing numbers of courses specifically for anaesthetists returning to work after a break. The Giving Anaesthesia Safely Again (GASagain) course was established in 2011 and is a national multicentre (London, Bradford and Bournemouth) return to work course which focuses on confidence building through scenario-based simulation and interactive tutorials. Many other regions have developed their own return to work course and if you would like help finding out where these are run please contact ltft@aagbi.org

Your CCT date

The RCoA will need to be informed of your intention to take maternity leave (or any other leave). Your CCT date will be suspended until your actual return to work, allowing any unplanned extension to your maternity leave to be factored in. Upon returning to work you must notify the training department of your return date and whether you are returning on a less than full-time basis, and a new CCT date will be calculated. If you are returning after illness, the occupational physician may suggest a period of 'therapeutic return to work' where you are not yet ready

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to return to training, but building up your stamina and identifying what you find easier or more difficult.

In 2012 the GMC released a position statement giving guidance on the management of absences from training and their effect on a trainee's CCT date. From 1 April 2013 any trainee who has been absent for more than 14 days in any 12 month period (excluding annual leave or study leave) will have a review to decide whether they need to have their CCT date extended. This review of absence will occur at ARCP and LETBs will administrate the process in consultation with the RCoA. LETBs are expected to implement this guidance flexibly to reflect the nature of the absence, the timing and the effect of the absence on the individual's competence [14].

Historically three months of one maternity leave could be counted as exceptional leave without affecting a trainee's CCT date. Although exceptional leave will cease to exist providing a trainee can demonstrate that all the necessary competencies have been achieved and provide evidence of CPD, the RCoA may still allow some maternity leave (or other leave) to be 'counted'.

Tips to improve your return to work

As mentioned above, returning to work is likely to be associated with some degree of apprehension. We would recommend that you use a structured return to work programme to help to ensure you are supported at this time. You might also want to consider approaching a trained mentor. The GMC recommends that structured support opportunities, such as mentoring, are used at periods when your role changes during your career and we would suggest that this is one such period [15]. Support from family, friends and colleagues is invaluable and if GAT can help you with anything then please get in touch by emailing gat@aagbi.org

Good luck.

Sarah Gibb
GAT Chair 2014–15

Emma Plunkett
GAT Committee Honorary Secretary

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MEMBERS' WELLBEING

Anaesthesia attracts many different personalities, and we all respond in different ways to the challenges of daily work, professional development requirements, and responsibilities outside work. Gaba [1] describes anaesthetists as being attracted to a job that offers excitement and fast paced work with danger lurking just below the surface. However, excitement is inevitably accompanied by stress. A degree of stress is good for all of us, but, like many doctors, anaesthetists can exhibit symptoms of chronic stress and burnout [2]. Female anaesthetists reported higher stress levels [3], and female trainees with young children working full-time report stress levels above the threshold at which people start to make errors [4]. This may be due to the conflicting responsibilities of work and domestic commitments.

The compounding pressures of inexperience, training, examinations and competition for jobs may make trainees more vulnerable to stress [5] and emotional exhaustion (burnout) [6]. The 2010 GAT welfare survey identified two important stressors: examinations and undertaking work about which the trainee may feel less than confident. Post-fellowship trainees have the added pressure of trying to get good jobs in an increasingly competitive market, in the face of restrictions on NHS funding

and consequent staffing restrictions. The feelings of uncertainty and perceived lack of control that this engenders contribute enormously to stress.

Current working environments, with large departments, short term rotational placements and poorer team structures, have weakened traditional networks of support. We all know that, when we work with a good team in an organisation that values and respects us, we provide better quality care. There is much management literature to confirm this [7]. NHS organisations that pay attention to the wellbeing of staff deliver higher quality care, make better use of resources, have lower patient mortality and have more satisfied patients [8].

Some trainees fear that informing colleagues that they are struggling might have a negative impact on their future career. Asking for help can be a brave thing to do, and it is important that trainee and senior colleagues provide good informal support, and help an individual who is under significant stress to get to the right source of advice. Wellbeing requires four components; a good working environment and work arrangements, support for staff to maintain good physical and mental health, good working relationships and good personal support [9]. We can all contribute to this.

Individuals respond to pressure in various ways; some use constructive coping strategies, while others may suffer from altered mood [10], or display changes in behaviour such as aggression. Sadly, some resort to alcohol or drug misuse, often as a result of depression [11]. Achieving a reasonable work-life balance can, at times, be devilishly difficult. Doctors do not behave like other patients when accessing healthcare and it is well known that we are reluctant to seek help or admit that something is amiss. There is evidence that medical personnel (including anaesthetists) are less likely to recognise or admit to the effects of uncontrolled stress and fatigue on performance, compared to other professional groups [8]. This has implications for patient safety.

The AAGBI Wellbeing and Support Committee recognises that our lives are stressful. It encourages all members to regard their own wellbeing, and that of colleagues, as an important priority and provides practical support and resources for individuals and departments. They are pleased to answer queries and concerns and to put you in contact with relevant experts.

The AAGBI website is being developed to provide links to a wide range of information, including AAGBI information and guidelines, material from other organisations and relevant articles. The AAGBI is pleased to respond to e-mail and phone queries. If you want immediate help, the AAGBI is also very well supported by the BMA's 'Doctors for Doctors' helpline, which gives immediate access to trained counsellors, who can support an individual in identifying the causes of their difficulties, recognising the impact that stress is having on them and accessing expert help more locally, should this be appropriate. Three anaesthetists work as voluntary advisors for BMA Doctors for Doctors. If you need to speak to someone outside your hospital, call the Doctors for Doctors advisory service where you will be given advice and a sympathetic ear. The service is available to all doctors, and contact details are below.

The Wellbeing and Support Committee also has formal links with the Royal Medical Benevolent Fund to help anaesthetists who have experienced financial difficulties during their career or who are seeking practical help and advice in other areas.

A national survey of members reported that local support for anaesthetists in difficulty was sometimes extremely helpful. A few LETBs also have successful mentoring systems in place and the AAGBI has a mentoring system. You can have a one off 'taster' mentoring session at the GAT ASM, the Winter Scientific Meeting and the Annual Congress or you can contact the AAGBI and ask to be put in contact with a mentor. Mentoring can help you develop assertiveness, good communication skills, effective conflict management, time management and reflection on your work life balance, which are all helpful in managing the dilemmas and problems of everyday life and training.

If you are enjoying your work, you keep up to date, give safe anaesthetics and enjoy domestic and social-life, you are having a successful career and life. But there will be times when we ALL need a sympathetic ear and good counsel. So do not be afraid to seek help. ***You are not alone***. If you can, seek local help initially, or alternatively, contact the AAGBI Secretariat at wellbeing@aagbi.org who will contact a member of the Wellbeing and Support Committee. Further details can be obtained from the AAGBI website.

Other resources that you may find useful are as follows:

- AAGBI. Wellbeing and Support
- Doctors for Doctors or tel: 08459 200169
- The Sick Doctors Trust or tel: 0870 444 5163
- The British Doctors and Dentists Group or tel: (North of England) 07976 717 211; (South of England) 07711 197 850, or via the Sick Doctors Trust helpline: 0870 444 5163
- BMJ Medical Careers Information
- Alcoholics Anonymous or tel: 0845 769 7555
- Narcotics Anonymous

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In the future, everyone will be world-famous for 15 minutes

Andy Warhol

Over the past few years, social media has taken off in medical circles as a method of sharing up to date information and for professional networking. It has now become so engrained into our way of working that almost all of our professional bodies have a social media profile and the GMC has produced guidelines on how we should run our avatars.

Key features of the GMC guidance include:

- If identifying yourself as a doctor, you should identify yourself by name
- Maintain patient confidentiality
- Treating colleagues fairly and with respect – you should assume that the professionals that you network with are well-trained and well-intended

When using social media you should weigh up your priorities. Is your aim social or professional? If posting lots of work-related content you may find your school friends cull you quite promptly. On the other side of the spectrum, if your profile is mainly made up of YouTube cat videos and food selfies then professional posts may not be taken seriously.

TED speaker Juan Enriquez likened social media to a digital tattoo. More permanent than an actual tattoo and so widespread that Andy Warhol's 15 minutes of fame has now flipped on its head and it is 15 minutes of anonymity that we can claim. This highlights an important warning about social media – posts tend to be permanent, even if deleted.

Technology is constantly evolving and so it is likely that the next big thing may replace some of the tools discussed below. Nevertheless, the following covers some of the current popular platforms.

Facebook

The strength of Facebook is that it is one of the most popular social media platforms. Many schools of anaesthesia have capitalised on this popularity to set up regional groups where topics such as the arrangements for teaching sessions or plans for social events can be shared. Beyond this organisational role, Facebook can be a medium to distribute broader medico-political and wellbeing content.

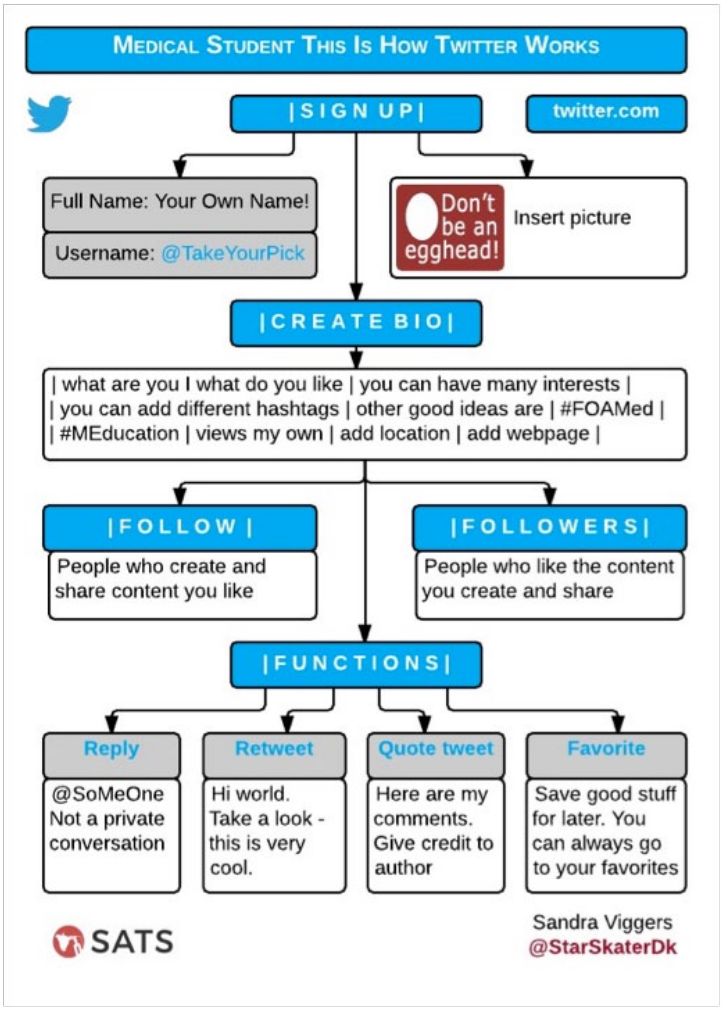
A few words of warning. Be careful what you post on Facebook and assume all your data are in the public domain regardless of your privacy setting. Think twice when making derogatory comments about other members of staff or the institution you work for. Potential employers will not take kindly to you moaning about a previous Trust and you don't want colleagues accusing you of bullying or defamation of character.

Twitter

Twitter is a fantastic way to share information hot-off-the-press within the limits of 140 characters. The content can range from how to do a particular procedure through to sharing the most up to date study. A good example of the power of Twitter is the distribution of knowledge at medical conferences [1]. Information that was previously restricted to the delegates in attendance, and whatever trickled back via word of mouth, can now be shared instantaneously, around the world. Discussions and debates can be started with individuals with whom you may not have normally crossed paths. Indeed one of my first discussions was with an anaesthesiologist in Tennessee on the topic of enhanced recovery while I was working in Bedfordshire.

So how do you plug in? Below is an infographic by Dr Sandra Viggers (@StatSkaterDK) on how to set up your account and how the various functions work.

Twitter: Getting Started. Viggers S. Reproduced with permission.



Hashtags (#) go hand-in-hand with Twitter. When added to the body of your text, a hashtag groups tweets together. People that are interested can search for and then keep an eye on that particular hashtag. For example, last year #GATASM15 was used to group all of the tweets that pertained to the conference. Those that wanted to keep abreast of the conference (even if stuck at home working), could follow events by searching for #GATASM15.

If you've not dipped your toe in the social media pool yet, I hope this has inspired you to investigate. Have fun!

Ben Fox
Chair of the GAT Committee

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MEDICO-LEGAL ADVICE AND SUPPORT

It is wrong to assume that NHS indemnity schemes will provide enough cover for your practice. It will cover vicarious liability during clinical negligence claims, but remember Trusts may have their own agenda when settling with claimants: potentially accepting a breach of duty to settle a claim early to reduce costs. It will not necessarily fight an action in order to defend your good standing or reputation.

Advice or assistance relating to criminal or disciplinary proceedings will not be provided, nor will any referral to the GMC if questions arise concerning your fitness to practise. Referrals to the GMC can be made not only by disgruntled patients but by the Responsible Officer in your hospital who has a positive obligation to tell the GMC if they are made aware of any potential breach of the GMC's *Good medical Practice*.

A contract of employment does not just mean you have to turn up for your allocated duties but includes a whole raft of detailed obligations relating to issues of note keeping, communication or behaviour that can, without too much difficulty, lead to conflict.

The impact of the stress involved in finding yourself suddenly investigated for a potential breach of your employment contract, or your fitness to practise, cannot be overemphasised, and medical organisations are available to provide immediate advice and support from people who are used to dealing with doctors in these circumstances. Paragraph 63 of the GMC's *Good medical practice* states: 'You must make sure you have adequate insurance or indemnity cover so that your patients will not be disadvantaged if they make a claim about the clinical care you have provided in the UK.'

New healthcare legislation in 2013, which came into effect on 1 August 2015, gives the GMC powers to check whether doctors have appropriate insurance in place depending on the type of work they do. Independent insurance cover is not just necessary for consultants indulging in private practice. The GMC can now remove a doctor's licence to practise if it is felt that their cover is inadequate or they fail to provide the information requested of them.

The law on consent

In 2015, the Supreme Court case of Montgomery v. Lanarkshire Health Board [2015] UKSC 11 [1], saw an important reminder about the way doctors must address the issue of consent. Briefly, the facts of the case involve failing to give adequate warnings or alternative treatments to Mrs Montgomery, who was pregnant, of small stature and diabetic. She suffered shoulder dystocia and a 12-minute delay in delivery, after which her son was born with brain damage and paralysis of an arm.

Mrs Montgomery had expressed concern to her obstetrician about whether or not she would be able to deliver vaginally but, despite this, the risks of shoulder dystocia (9–10%) and subsequent potential for a poor outcome were not discussed. Mrs Montgomery claims she would have opted for a caesarean section if the risks and treatment options had been fully explained to her.

Her obstetrician explained that she did not warn about shoulder dystocia because the risk of a serious problem ensuing was very small (approximately less than 1 in 1000 risk of cerebral palsy). Independent experts supported this approach. It was argued that an expression of concern was not the same as a direct question requiring a direct answer.

The Supreme Court found in favour of Mrs Montgomery. The information to be provided to the patient should not ultimately be left to the doctor's clinical judgement, irrespective of the practices of other clinicians in the field. In a move away from Sidaway [2] and the Bolam [3] test we must now consider what the 'reasonable patient' would want rather than what the 'responsible doctor' might do.

Patients must be warned of any 'material risk' of a procedure and advised of any reasonable alternatives. As with other recent decisions, the rule comes with a very limited caveat called the 'therapeutic exception' whereby a doctor may withhold from the patient information of a risk if they reasonably consider that its disclosure would be seriously detrimental to the patient's health. I am sceptical about the inclusion of these 'exceptions' to rules, as I believe it makes the job of the physician potentially more difficult and opens them to litigious scrutiny with customary 20:20 legal hindsight.

There is nothing in this judgment that should come as a surprise to any practicing physician as it merely enforces principles that have been in the GMC's guidance on consent. What I believe it does do, however, is alter the way that anaesthesia as a specialty should deal with the issue of consent. It makes clear that the important consideration is not the rarity of the risk but the significance of the complication to an individual patient. Although not a unanimous view, my own belief is that anaesthesia needs a specific and separate consent process, which must culminate with the patient's signature rather than just a note by the anaesthetist of the discussions that have taken place. The 'duty' of consent, however, is not fulfilled simply by providing technical information that the patient may not understand or by the presence of a signature on a consent form.

The AAGBI guideline *Consent for anaesthesia* 2016 is due to be published shortly and will be available from the publications section of the AAGBI website.

Peter Townsend
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CONSENT AND UK LEGISLATION

Principle of consent

'It is a general legal and ethical principle that valid consent must be obtained before starting treatment, physical investigation, or providing personal care' for a patient [1]. Health professionals who carry out procedures without valid consent are liable to legal action by the patient and investigation by the GMC or equivalent professional bodies.

Consent is an important part of the process of discussion and decision-making by patients and their doctors. You should 'share information in a way the patient can understand and, whenever possible, in a place and at a time when they are best able to understand and retain it' [2]. When deciding how much to disclose to individual patients you should take account of their wishes but ensure all relevant information and the nature and level of risk are included to enable them to make an informed decision. In addition, it is good practice to provide written information leaflets for patients prior to admission for elective surgery and anaesthesia. Doctors should check patients have understood all the information and encourage them to ask

questions, which should be answered fully and honestly. This has been further reinforced by a recent Supreme Court ruling (Montgomery v Lanarkshire Health Board [3]): 'A risk should be considered material if a reasonable person in the patient's position would be likely to attach significance to it.'

Valid consent implies that a competent and informed person gives it voluntarily and not under duress. All adults should be presumed to have capacity to consent unless there is contrary evidence. To have capacity for consent, the patient must be able to comprehend and remember the information provided, weigh up the risks and benefits of the proposed procedure, and consider the consequences of not having the procedure in order to make a balanced decision. They must also be able to communicate this decision [4,5]. Doctors must respect patient autonomy and their right to be involved in decisions that affect them. You must respect a patient's decision regarding treatment even if you think it is irrational or unwise and 'may result in death of the patient (and/or the death of an unborn child, whatever the stage of the pregnancy)' [1,6].

Consent may be expressed as either written, verbal or implied, e.g. holding out one's arm for a blood test. At present a separate formal written consent form for anaesthesia is not required if part of another treatment, but anaesthetists should record details of their pre-operative discussion with patients in the medical record, 'noting what risks, benefits and alternatives were explained' [7].

Patients who lack capacity

The treatment of patients who lack capacity is governed in England and Wales by the Mental Capacity Act 2005 (MCA) [5], and in Scotland by the Adults with Incapacity (Scotland) Act 2000 [8]. In Northern Ireland, decision making for these patients is currently governed by common law, requiring decisions to be made in the patient's best interests.

In the MCA there is a two stage test of capacity, namely:

1. Does the person have an impairment of the mind or brain or is there some sort of disturbance affecting the way their mind or brain works, whether temporary or permanent?
2. If so, does that impairment or disturbance mean the person is unable to make the decision in question at the time it needs to be made?

If the patient lacks capacity, then it is lawful for treatment to be given if it is in the patient's best interests. The definition of 'best interests' is assumed not to be limited to best medical interests, but considered to include welfare, social, emotional, psychological and other interests.

The Independent Mental Capacity Advocate (IMCA) Service in England and Wales supports vulnerable people who lack capacity to make decisions about providing, withholding or stopping 'serious treatment' (e.g. major surgery) where there are no friends or family members available, or willing, to be consulted about those decisions. Responsibility for instructing an IMCA in a case of serious medical treatment lies with the NHS organisation providing the patient's healthcare. However, in an emergency, treatment can proceed if it is in the patient's best interests without instructing an IMCA [9].

Lasting powers of attorney (LPA) may be appointed by a person with capacity to act on their behalf in health decisions should they lose capacity in the future, including 'giving or refusing consent to the carrying out or continuation of a treatment by a person providing healthcare' (England and Wales) [5]. When the attorney is uncontactable, if an urgent healthcare decision is required in relation to a patient with a LPA, treatment should proceed if it is in the patient's best interests.

Advance decisions, previously termed living wills or advance directives, are legally binding advance refusals of specific treatments by a competent individual of 18 years or older in case of future incapacity. They may be verbal or written. Refusal of life sustaining treatments must be in writing and signed in the presence of a witness. In an emergency, treatment should not be delayed by looking for an advance decision but if one has been made, and is likely to be relevant, the healthcare professional should 'endeavour to assess its validity and applicability as soon as possible' [5,8].

Children and young adults

Doctors must safeguard and protect the health and wellbeing of children and young people. The law relating to children and young people is complex and differs across the UK. The capacity to consent depends more on young people's ability to understand and consider options than on their age. You should involve children and young people as much as possible in discussions about their care and treatment [10]. In England and Wales, the Children's Act 1989 summarises who may have parental responsibility and can give consent on behalf of a child [1,11]. Those with parental responsibility (PR) include the child's mother or father, a legal guardian, the local authority or a person with an emergency protection order for the child.

In England and Wales, young adults over the age of 16 are automatically presumed competent in law to give consent for any treatment without obtaining separate consent from a person with PR, unless it involves research (in which case consent by a person with PR may be required until age 18). However you should encourage young people to involve someone with PR when appropriate. In Scotland there is no requirement to gain additional consent from a parent as long as the young person is deemed competent and understands what is being proposed [11]. If the young person is not considered competent, (e.g. has learning difficulties) then in England, Wales and Northern Ireland a parent may give consent until 18 years old, but in Scottish law the concept of parental responsibility ceases at 16 years old [12].

Children under 16 who demonstrate the ability to fully appreciate the risks and benefits of the planned intervention, can also be considered competent to give consent – so called 'Gillick competency' [13]. The decision of a competent child to accept treatment cannot be overridden by a person with PR [14]. Children with capacity, and young adults who refuse treatment, may have their decision overridden in the courts 'if it would in all probability lead to the death of the child/young person or to severe permanent injury' [1]. If a competent child refuses treatment, the courts have said that, in exceptional cases, persons with PR may consent on their behalf and the treatment can lawfully be given. For young adults the law on parents and/or medical professionals overriding young people's competent refusal is complex and you should seek legal advice [9].

If a child lacks the capacity to consent, you should ask for consent from a person with PR or from the court [9]. For children who lack capacity, the law only requires consent from one person with PR even if another person withholds consent. However, clinicians should try to obtain a consensus if persons with PR disagree. If it is still unclear as to whether a procedure is in the child's best interests then it is advisable to refer the decision to the courts. When the child is a ward of court, any significant medical intervention requires prior consent from the court [1].

In an emergency, if treatment is vital to the survival or health of the child and it is impossible to obtain consent in time, a child who lacks capacity may be treated without the consent of a person with PR. It is good practice to fully document this process in the medical notes [14].

Doctors have a responsibility to respect the confidentiality

of competent young people and to not generally disclose information, e.g. to a parent, without permission to do so.

Conclusions

Doctors have a professional, legal and ethical obligation to respect patient autonomy and obtain valid consent for medical treatment. The consent process in individual cases may be complicated and a sound understanding of the law is essential to know how to proceed. Documentation of discussions and decisions on consent are important and should include how the decision was made, who was present and what was said, as clearly as possible.

Acknowledgment
With thanks to Dr Kathy Wilkinson, Consultant Anaesthetist, Norfolk and Norwich University Foundation NHS Trust who advised on the section on children and capacity.

Paul Barker
Consultant Anaesthetist, Norfolk and Norwich University Foundation NHS Trust
AAGBI Council member

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WHAT CONSULTANTS REALLY EARN AND HOW THEY DO IT

Few medical students chose their career on the basis of what they're going to earn, but most are probably quietly confident that they won't be poor. As you approach your CCT you need to start thinking about what sort of job you want; teaching or general hospital, subspecialty, location? What's generally not well known among trainees is the silent 'M' – money! NHS consultants are well paid; even on appointment at around £75,000 basic a year this is in the top 5% of earnings. The top of the scale extends to about £100k – well above the 97th centile. However, consultants received no annual pay rise for three years from 2010, only to receive a 1% uplift in 2013, and only those consultants at the top of the scale received a (non-consolidated, non-pensionable) increase in 2014 and again in 2015. Consultants in Scotland received the full 1% increase recommended by the Review Body on Doctors and Dentists Remuneration (DDRB) in 2015 and 2016.

But how can you earn more than the basic scale? There are four main ways of doing this; private practice, clinical excellence awards, additional NHS work and medico-legal practice. Whichever, if any, you choose, take sound financial advice, don't live beyond your means, and remember that all good things can come to end (a bad fall on the ski trip could stop you earning for months!)

Private practice

Approximately 60% of consultants, who are members of the AAGBI, undertake some independent practice [1]. How much will depend on where you are, which surgeons you work with, and whether you want to do it. It's not the land of milk and honey though and can be unpredictable. There may be a syndicate or partnership in your hospital or it may be each anaesthetist does their own thing. The role of Anaesthetic Groups was recently reviewed by the Competition and Markets Commission, and then subjected to an appeal by private medical insurers, and are deemed not to be anti-competitive – the AAGBI played a major role in achieving this outcome. You'll need to pay additional professional indemnity insurance, (depending on your income), keep good figures and get an accountant (definitely advised). You must be certain to ensure no conflict with your NHS commitments (SPA time is not time for private patients!), ensure your availability to your patients postoperatively or arrange cross-cover. If private practice is something you're considering, make sure to ask (discreetly) while investigating any possible jobs. Probably not during the interview!

Clinical excellence awards

Clinical excellent awards [2] recognise significant contributions over and above contracted work. Different systems operate within the four NHS organisations, but in general terms they are divided into employer based and national awards. Application is by self-nomination on a standard form (the CVQ) and awards are competitive between all specialties. Contributions to the NHS are assessed in the areas of care delivery, development, management, research and education. Local awards (Levels 1–9) are worth between just under £3,000 to about £35,000 per year. There are no local awards in Wales, where a system of seniority payments exists. National awards (Levels 9–12) are worth between £35k and £75k a year; all are currently pensionable. Approximately 40% of consultants have no award, 40% have 1–4 points and just fewer than 9% have 5–8 points. At the higher awards the numbers fall away quickly; approximately 8% have level 9, approximately 4% have levels 10/11, and less than 1% have level 12.

Competition for these awards is fierce, and they are not given out lightly. They are not bonuses, but additional payment for significant

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and sustained contributions to the NHS. There is as much skill needed in completing the form as there is in delivering the work. The best way to improve your chances of obtaining an award is to become an academic and/or a physician – they are four times more likely to have one than anaesthetists! Anaesthetists pro rata have always done badly in local and national awards, something which the AAGBI has made representations about to the Advisory Committee on Clinical Excellence Awards (responsible for the national scheme) at length and for many years, but with little evidence of improvement.

The future for these awards is extremely uncertain. The DDRB reported on the Clinical Excellence Award Scheme in December 2012 and made wide-ranging recommendations. The number of national clinical excellence awards (CEAs) approximately halved for England and Wales in 2010 and there have been no new national awards in Scotland or Northern Ireland for many years. Many Trusts in England have not run employer award rounds for one or more years. The consultant contract for England is about to be renegotiated by NHS Employers and the BMA, based on observations made by the DDRB 2015 Report into doctors contracts. The DDRB also made several observations about CEAs (which are not a contractual entitlement) in this report, including completely separating the employer and national schemes, and it is highly likely that a new scheme or schemes will emerge from the negotiations.

There is now greater risk in applying for national awards. Failure to successfully renew a national award has resulted in the loss of the entire award since the removal of pay protection in 2014. In future rounds it may be possible to renew a national award at a lower level. This results in an obvious loss of earnings, but also will impact on the final salary element of pension if this occurs more than three years before retirement. Such a change will impact less on a career averaged pension. Recent changes to pension rules (the lifetime and annual allowances) mean that receipt of a CEA may result in a significant additional tax liability, especially if it occurs within three years of pay increment; however, there are a number of Trusts in England that no longer support the local CEA award system.

Additional NHS work

Often known as 'waiting list initiatives' this is work for the NHS, on NHS patients, although not necessarily done on NHS premises. It should all be covered by the NHS Litigation Authority, so should not affect your indemnity payments (but check that managers arranging the contracts know this). It is Department of Health policy, supported strongly by the AAGBI, that payments for additional NHS work should be on the basis of parity (equal pay, for equal work), but there are often attempts to introduce pay differentials between surgeons and anaesthetists. Further advice can be obtained from the AAGBI. Additional NHS work is unpredictable, and may be one of the first things to be cut in times of economic pressure.

Medico-legal work

This may include work related to civil claims, or the coronial system. It is not to be entered into lightly. The role of the expert is to provide advice to the court, and anyone considering this should prepare themselves carefully as to their duties and obligations. Familiarity with the legal process and the rules of evidence is essential, as is the ability to write accurate and logical reports, and to give evidence. Professional training courses are available, and for those with an interest it can be a fascinating experience. You are as professionally liable for medico-legal work as you are for your clinical practice, and the witness box can be a lonely place if you're unprepared.

Despite what you may hear in the coffee room, there are no poor consultants; although some may not be as well off as they'd like, and they may not be as well off as they were. There are a number of ways of augmenting the consultant salary, all with their advantages and disadvantages. The benefits of one against the other may be subject to significant change in the near future. Never assume any additional income will last forever, keep good records and get an accountant. And whatever you choose to do, or not to do, be nice about it; there are two things that cause disharmony in departments and they're both money!

Andrew Hartle
AAGBI President

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FINANCIAL PLANNING AND PENSIONS

In today's fast paced world, managing your finances and negotiating the financial barriers that inevitably arise at every stage of your life and career can be a challenge. Having a financial expert who understands you, your career, your NHS pension and, most importantly, is someone whom you can trust, is essential. Excellent quality, holistic advice should be a given, but this is not always the case and choosing your financial adviser has never been as important. A good financial adviser will guide you and assist you in taking advantage of their advice and expertise, but also offer a range of ongoing services to assist you in achieving and maintaining your long term goals and objectives.

There are basically two types of financial adviser. Those who are independent and have thus met the requirements to provide unbiased advice based on a comprehensive and fair analysis of the whole of the market; and restricted advisers who can generally only recommend certain products, product providers, or both. In my experience, the vast majority of doctors tend to select the independent route so that they can benefit from unrestricted advice, which in my opinion has to be the preferred option.

January 2013 saw the biggest ever change to the way financial advice is provided as the Retail Distribution Review was implemented. This now embedded change was the brainchild of the industry regulator and in simple terms its objective is to ensure that consumers are offered a transparent and fair charging structure for the advice they receive, that they are clear about the services they are paying for, and that the advice is delivered by highly qualified professionals. It is indeed difficult to argue with that rationale.

So what should you be considering as part of a financial plan for life?

We will start with the fundamentals: your NHS pension. This should be the foundation not only for your future retirement but also needs to be considered when you are looking to protect your loved ones. The scheme offers fantastic benefits. However, whenever we are looking at holistic planning these benefits need to be considered alongside any other complementary arrangements you may have in place, or may need to put in place, to make up any shortfalls identified during the advice process.

The basics!

The NHS Pension scheme saw its biggest ever change on 1 April 2015 with the introduction of a brand new pension scheme known as 'The 2015 Scheme'.

For those members within 10 years of normal pension age as at 1 April 2012 the changes in 2015 had no impact. There is some transitional protection for those who were aged between 10 and 13 years and five months of their normal pension age on 1 April 2012 and these individuals will transfer to the new scheme at a later stage on a transitional basis giving them additional protection. However, anyone younger than this will have transferred to the new NHS Pension scheme automatically on 1 April 2015.

For those members with full or transitional protection the date at which you originally joined the scheme determines the section of which you will be a member. If you joined the NHS pension scheme for the first time before 1 April 2008 then you will be a member of the 1995 section. If you joined after this date then you will be a member of the 2008 section. All 1995 members were given the choice of moving to the 2008 section when it was first introduced and 1995 members who hadn't got 'full protection' were given a second chance to retrospectively move their 1995 service to the 2008 section. They would then have service in the 2008 section up to 31 March 2015 and move into the new 2015 scheme on 1 April 2015.

While the two sections have some specific variables they are widely similar and are final salary defined benefit schemes. This means that your pension at retirement is based on two key factors: your whole time equivalent pensionable income in the years leading to retirement, and your years of scaled service. The benefits are guaranteed, index-linked and carry no investment element. Overall both sections offer excellent benefits. As well as offering a superb pension income in retirement, both sections offer additional benefits for spouses, partners and dependents. In addition, in the event of permanent illness which renders you unable to work, an enhanced pension can be payable for life, and in the event of a terminal illness your whole pension can be taken as a lump sum which is normally tax free.

While there are some small variations, the key differences between the 1995 and 2008 sections of the NHS pension scheme are the age at which you can draw benefits without penalty and also the way in which the benefits accrue.

In the 1995 section you can draw your benefits without penalty at age 60, albeit you have a protected right to draw these benefits from the age of 50, with an actuarial penalty, as long as you were an active member of the pension scheme on 5 April 2006. These taxable benefits accrue at a rate of 1/80th of your pensionable pay for each year of service. Your pensionable pay is deemed to be the best of the last three years' notional whole-time pay. In addition you will receive a tax-free lump sum of three times the amount of your pension. Each day of service is counted towards this and if you are working part-time you can rest assured that you are not penalised, as your part-time service is scaled to its whole-time equivalent. This gives great options for those who want more flexible careers. At retirement you can take a larger lump sum if you wish, but in doing so you will forego part of your pension. This decision is not taken until retirement so you can determine the best course of action at that time depending on your personal circumstances and wishes.

In the 2008 section you can draw benefits without penalty at age 65; albeit you can take these at any time from age 55 if you are prepared to accept a penalty for doing so. These taxable benefits accrue at a rate of 1/60th of your reckonable pay at retirement and there is no automatic lump sum payable although, as with the 1995 section, you can give up part of your pension for a tax free lump sum. Reckonable pay is the average of the best three consecutive years in the last ten, increased in line with inflation.

Around 75% of pension scheme members transferred to the new pension scheme on 1 April 2015 which runs alongside the existing NHS pension scheme. The benefits you built up prior to moving to the 2015 scheme will remain in the 1995 section or 2008 section as appropriate. At retirement these benefits will be treated separately and calculated in accordance with the rules of the 1995 or 2008 section as stated above. If you choose to draw your 1995 benefits you will not be able to continue membership of the 2015 Scheme, however if you have benefits in the 2008 section, and choose to draw these, further membership in the 2015 scheme can continue.

Anyone who has added years in place will be able to continue with this arrangement until the normal contract end date at 60 or 65. You will be able to draw these benefits in isolation and continue to accrue benefits in the 2015 scheme if you wish.

The 2015 pension scheme will have a normal pension age which is linked to your state pension age, which for some will be 68 (this can of course change in the future), and your benefits at retirement will be calculated based on your career average earnings rather than your final salary. These earnings will be revalued by inflation (CPI) plus 1.5%.

It is very important to note that it is certainly not all bad news. As stated above, all benefits accrued up until 1 April 2015 are fully protected and will continue to be linked to your final salary at or near retirement unless you have a continuous break in service of five years or more. This is known as final salary linking. The final salary is the best of the last three years pensionable pay in the 1995 section or the average of the best three consecutive years pensionable pay out of the last ten in the 2008 section.

With careful forward planning this means that you can still retire at a time of your choosing but you really do need to start thinking ahead. The NHS pension scheme offers an option to enable retirement at age 65 known as ERRBO (early retirement reduction buy out). This is an option for you or your employer to pay additional contributions to buy out the reduction that would apply if benefits were claimed before normal pension age. Normal pension age in the 2015 scheme is the same as state pension age and as such can rise during membership if the state pension age rises. The agreement can be for early retirement up to three years before your normal pension age but no earlier than age 65. The rate of additional contributions is based on your age at the effective date of your agreement and costs can be sought from the relevant NHS pensions agency.

ERRBO is only one of a number of planning considerations which may or may not be appropriate, and a combination of solutions may offer the most flexible outcome. This is particularly the case if you would like to retain the flexibility or choice to retire at age 60.

The benefits available in the 2015 scheme in the event of ill health and death are broadly similar to those available in the 1995 and 2008 sections. However, any lump sum and/or any adult or survivor pensions payable are calculated using relevant earnings in the 2015 scheme only, rather than in accordance with the relevant 1995 or 2008 section regulations. This means that any complementary protection you have arranged privately will need to be reviewed to ensure it is still at an appropriate level.

On a separate, but related, point there were further announcements in the Chancellor's 2014 Autumn Statement and 2015 Budgets around the way in which pension benefits are taxed. While many assume this only affects the very high earners or those nearing retirement this is not necessarily the case.

There are two key allowances we need to consider. These are the lifetime allowance and the annual allowance.

The lifetime allowance does not have an impact until retirement and is measured based on the amount of pension benefits you build up over your lifetime. This allowance has been reduced to

£1.25m on 1 April 2014 and is set to reduce again to £1m on 1 April 2016. While on first observation this seems like a significant amount of pension benefit, for a member of the 1995 section retiring after 1 April 2016 this equates to a pension of £43,478 per annum. While no one will argue that this is a healthy pension, it is now below the average pension for an anaesthetist, and does not make any allowance for any private pension arrangements, added years, or additional pension purchase you may have. If you are making any private pension arrangements it is therefore essential that you assess the future suitability of these plans. Rash decisions to cancel plans should not be made, but you must check your current position to ensure you do not incur any unnecessary and unexpected tax charge at retirement. Various protections are available against reductions to the lifetime allowance and advice should be sought if you believe you could be affected by these changes.

The annual allowance is potentially more of a concern for all ages of doctor. The annual allowance limits the amount of tax allowable pension benefits you can accrue and the method of calculating this in the NHS pension scheme is complex. The annual allowance limit was reduced to £40,000 on 1 April 2014. While a tax charge for a doctor in training is not common, those individuals who receive an increment or promotion will need to check their position carefully.

The NHS pension scheme will inform any member who exceeds their annual allowance so they can incorporate this information on their self-assessment tax return. It is possible to utilise any unused allowance from up to three previous years and for the vast majority of trainees this should cover any excess and as a result avoid a tax charge. If, however, anyone is in the position where they have incurred a tax charge of more than £2,000, which is unaffordable, they can opt to have this tax charge taken from their future pension benefits at retirement. This should not be a decision that is taken lightly as there are punitive interest charges applied and any decision, once taken, is irrevocable.

A further and more complex announcement was made in the 2015 Summer Budget for higher earners. From April 2016 a tapered reduction to the annual allowance will be introduced where an individual meets two specific criteria. The first is if the 'threshold income' (total income before tax less individual pension contributions) exceeds £110,000. The second is if the 'adjusted income' (total income before tax, plus all pension contributions, including the value of employer contributions) exceeds £150,000. If both of these criteria are met, the individual will have their annual allowance tapered down. For every £2 of adjusted income in excess of £150,000 the annual allowance will be reduced by £1 down to a minimum of £10,000. In other words, anyone with adjusted income in excess of £210,000 will have a reduced annual allowance of £10,000.

In addition, for all pension scheme members, all pension input periods will be aligned with the tax year. A pension input period is the period over which the amount of pension saving (pension input amount) under an arrangement is measured. Currently within the NHS pension scheme this period is 1 April to 31 March. This area is incredibly complex, particularly the transitional arrangements relating to the 2015/16 tax year. Anyone affected by these changes should seek advice from their accountant in the first instance.

In recent press coverage there has been lots of talk of members leaving the NHS pension scheme and considering alternative solutions, however this is certainly NOT the most appropriate choice for the majority of people and should only be considered in the most exceptional of circumstances.

The NHS pension scheme (and the equivalent Scottish and Northern Ireland versions) and the legislation surrounding them, are extremely complex. It is essential when choosing your financial adviser that they understand the benefits provided and how they will impact on your long term financial future. Your career path will undoubtedly have an impact on your future pension entitlement and taking advice from a specialist who understands the intricacies of this is paramount.

Other areas for consideration

Financial planning should always be viewed on a holistic basis as when any plan of action is implemented it will almost certainly have an impact on other areas. Protecting yourself and your loved ones is of vital importance. Ask yourself the question, how would you or your family cope financially if you were seriously ill or even passed away?

So what do you have in place already?
You will be entitled to a period of sick pay from your employer depending on your length of service. This builds up to a maximum of six months' full pay followed by six months' half pay once you have attained five years' continuous service within the NHS. If you are still incapacitated after this point you can be assessed for a long term ill health pension but the illness must be deemed to be of a permanent nature.

In the event of your death your NHS pension also provides your family with some excellent additional benefits such as a death in service lump sum, plus a short term pension of six months' pensionable pay. If you have more than two years' pensionable service, your spouse, partner and dependent children will also subsequently be entitled to a long term pension, which can be invaluable. If you are not in a legally recognised relationship (i.e. marriage or civil partnership) and want to ensure your partner receives these benefits it is essential that you complete a nomination form and register this with the NHS pension scheme as this entitlement is not automatic.

While these benefits are excellent will they be enough?
A quality financial adviser will calculate the financial value of the above benefits and discuss and determine with you whether these are sufficient to maintain your lifestyle in the event of an illness, or even death.

It is often necessary to protect yourself further, and equally as important to consider protection needs for your spouse or partner, even if they are not working themselves.

- Mortgage protection – You will almost certainly need to consider ensuring any mortgage and liabilities are protected against death and/or critical illness

- Income protection – As a priority in the event of any long term illness which stops you working, you should consider protecting your income with a plan which complements your NHS sick pay benefits. This should certainly offer 'own occupation' terms which reflect your career as an anaesthetist and in the event of a claim will continue until you are fit enough to return to work, reach retirement age under the plan, or die. If you have transferred, or will be transferring, to the 2015 pension scheme, any existing income protection should be reviewed to ensure it is still at an appropriate level. This is simply because the method of calculating any ill health retirement benefits has changed under the new scheme, and in addition your pension benefits will not be paid until you are older meaning your income protection will need to cover you for longer

- Serious illness cover – This complements your income protection cover and pays out a lump sum on diagnosis of one of a specific list of serious illnesses. This will pay out even if you are able to continue working. If however you are not able to work, a long term or permanent illness means your pension will not continue to accrue and you

may need to consider providing yourself with a means to maintain your lifestyle and income in retirement, once your income protection plan's benefits cease. This type of cover also gives you significant lifestyle choices. If you recover you may want additional time off work to recuperate from a serious illness such as cancer, or may want the option to return to work in a part-time capacity until you feel stronger following a heart attack, for example

- Life insurance to protect your loved ones – While the NHS provides a death in service benefit, you need to ensure this is sufficient to maintain the lifestyle of your family should you pass away

Finally it is very important to ensure you have made a will. Many assume that their estate will pass to their loved ones automatically in the event of their death. This is not always the case, and in any event dying intestate causes much unnecessary stress for those left behind.

As you can see financial advice can be complex, but a well qualified, independent financial adviser who is a specialist in dealing with doctors will be able to guide you and assist you in making a plan for life.

Andrea Sproates
Head of BMA Independent Financial Advice at Chase de Vere

ABBREVIATIONS

AAGBI	Association of Anaesthetists of Great Britain and Ireland	
ABRA	Association of Burns and Reconstructive Anaesthetists	
ACCS	Acute Care Common Stem	
ACTA	Association of Cardiothoracic Anaesthetists	
APA	Association of Paediatric Anaesthetists	
ANZCA	Australian and New Zealand College of Anaesthetists	
ARCP	Annual Review of Competency Progresison	
ASCAB	Armed Services Consultant Advisory Board	
BADS	British Association of Day Surgery	
BLTC	Basic Level Training Certificate	
BMA	British Medical Association	
BOAS	British Ophthalmic Anaesthesia Society	
CAI	College of Anaesthetists of Ireland	
CCT	Certificate of Completion of Training	
CT/CAT	Core Training/ Core Anaesthetic Training	
DAS	Difficult Airway Society	
DMAP&CC	Department of Military Anaesthesia, Pain and Critical Care	
DMS	Defence Medical Services	
DPMD	Defence Postgraduate Medical Deanery	
EACTA	European Association of Cardiothoracic Anaesthesiologists	
ESRA	European Society of Regional Anaesthesia	
FCAI	Fellowship of the College of Anaesthetists of Ireland	
FFPMRCA	Fellowship of the Faculty of Pain Medicine at the RCoA	
FICM	Faculty of Intensive Care Medicine	
FRCA	Fellowship of the Royal College of Anaesthetists	
	MCQ	Multiple Choice Question
	OSCE	Objective Structured Clinical Exam
	SAQ	Short Answer Question
	SOE	Structured Oral Examination
	SBA	Single Best Answer
FTTA/FTSTA	Fixed Term (Specialty) Training Appointment	
FY1/2	Foundation Year 1/2	
GASACT	Group of Australian Society of Anaesthetists Clinical Trainees	
GAT	Group of Anaesthetists in Training	
GMC	General Medical Council	
IACC	Initial Assessment of Competence Certificate	

ABBREVIATIONS

ICACCST	Intercollegiate Committee for Acute Care Common Stem Training	
ILTC	Intermediate Level Training Certificate	
IRC	International Relations Committee	
JDC	Junior Doctors Committee (BMA)	
LAT	Locum Appointment for Training	
LETB	Local Education and Training Board	
LTFT	Less Than Full Time	
MA	Maternity Allowance	
MCAI	Membership of the College of Anaesthetists of Ireland	
MMC	Modernising Medical Careers	
NACCS	The Neuro Anaesthesia & Critical Care Society of Great Britain and Ireland	
NIAA	National Institute of Academic Anaesthesia	
NIMDTA	Northern Ireland Medical and Dental Training Agency	
OAA	Obstetric Anaesthetists Association	
OAF	Overseas Anaesthesia Fund	
OOPE/T/R	Out of Programme Experience/Research/Training	
PHEM	Pre Hospital Emergency Medicine	
RA-UK	Regional Anaesthesia UK	
RCoA	Royal College of Anaesthetists	
SAT	Specialist Anaesthesia Trainee	
SCA	Society of Cardiovascular Anaesthesiologists	
SMP	Statutory Maternity Pay	
SOBA	Society for Obesity and Bariatric Anaesthesia	
ST	Specialty Trainee	
STAT	Society of Tri-Service Anaesthetists	
TSAS	Tri-Service Anaesthetic Society	
UKOFF	UK Offers System	
VASGBI	Vascular Anaesthetic Society of Great Britain and Ireland	
WPBA	Work Place Base Assessments	
	A-CEX	Anaesthetic Clinical Evaluation Exercise
	ALMAT	Anaesthetic List Management Assessment Tool
	ICM-ACAT	Acute Care Assessment Too for ICM
	DOPS	Directly Observed Procedural Skills
	CBD	Case Based Discussion
	MSF	Multi Source Feedback
	CSAF	Clinical Supervisor's End of Unit Assessment Form
WTE	Whole Time Equivalents	

USEFUL ADDRESSES

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www.aagbi.org/professionals/trainees

GAT AAGBI
GROUP OF ANAESTHETISTS IN TRAINING