

Optimizing a career in surgery

Recruitment into surgical training in the UK is centralized and is managed by the Core Surgery National Recruitment Office (NHS Health Education Kent, Surrey and Sussex, 2015). Gaining a national training number in all surgical sub-specialities is highly competitive. Failure to plan carefully an attempt at selection is very likely to lead to disappointment. Some methodical thought and thorough planning can optimize the chances of success. The 12 tips described in this article permeate all the domains not only for surgical selection but also good medical practice.

The process of achieving a surgical post should be viewed as a journey with a definite end point. Ultimately it is part of a longer journey (your career) which does not terminate with successful selection. Get off on the right foot and practise habits that will set you in good stead throughout your career.

This article provides 12 tips which will help junior doctors to start preparing for the next step of their career.

Tip 1: find a surgical mentor

The relationship between a mentor and a mentee is one of the most well-established means of professional development. It is important to find someone who is both approachable and has a track record in successfully supervising trainees at all levels. The wider peer group will usually know of such individuals and certainly, more senior trainees will have identified trainers within the region with these attributes. Speak with your peers and colleagues to help you identify

such an individual. At an initial meeting, try and identify your strengths and weaknesses with regard to selection, particularly areas which may be deficient or absent. Ideally you will have reflected on this before a first meeting and given this some thought. Plan to address these areas, but always consider what is realistically achievable.

A surgical mentor may also be considered as a role model and coach (Healy et al, 2012). He/she will be able to guide and advise on process, be it exam or interview preparation, and manage your trajectory. The mentor will have been through the process him/herself and is also likely to be involved with assessment of trainee doctors at varying levels. Within the wider range of activity, he/she will almost certainly have research and quality improvement projects ongoing.

Tip 2: keep a portfolio

A portfolio is a showcase of evidence. It is, in essence, you in the context of your surgical career. Your portfolio must contain all the pieces of your vocation to date that, when looked at as a whole, demonstrate a spectrum of activity that defines the trainee as a dedicated apprentice in all aspects of surgical training. Indeed, a well-maintained portfolio will stand out and clearly signal the commitment to a speciality with evidence in all domains of practice.

A portfolio is literally that; go out and buy a suitably organized dossier to collate your evidence and hold it tidily. Organize your portfolio into the following sections:

- Career progression
- Curriculum vitae
- Personal development plan
- Work-based assessments
- Audit and quality assurance
- Research
- Publications
- Presentations
- Educational activity
- Leadership and management
- Courses attended
- Reflection.

Portfolio stations form the basis of core surgical training and specialist training programme interviews. A good, well-organized portfolio is essential, so it is important to start building your portfolio during your foundation training. Adding evidence as you go along will reduce the stress when it comes to interview time and will allow you to focus on other aspects of the surgical interview. You own everything in your portfolio – it is your evidence. Make sure that you know exactly where the evidence is filed and that you are able to access it effortlessly. This is particularly important when it comes to selection as you may be asked to show the assessors where various fragments of evidence are within the portfolio.

Tip 3: maximize theatre time

Balancing ward duties and gaining experience in theatre can be challenging for a F1 doctor, especially when staffing levels on the wards are reduced. It is important to prioritize ward jobs and ensure patient safety, but once all ward jobs have been completed try and attend theatre lists and tell your team and the staff nurses on the ward that you are available on a bleep in case of any emergencies. If you are going to scrub give your bleep to one of the circulating theatre staff and ask them very politely if they would not mind answering it and taking a message should it go off. Be prepared to leave theatre if there is an urgent task to deal with. Your peers are more likely to be supportive if they perceive you to be not diverting tasks that you should be doing to them. If there are a few foundation doctors in your team, come up with a rota for theatre sessions. Offer to hold a colleague's bleep when the wards are quiet and develop your operative experience.

It is essential to be familiar with the department and the patients, and to try and achieve familiarity with the environment in as short a time as possible. To achieve this frequent attendance is crucial along with gaining the surgeon's interest in providing teaching (Lyon, 2003). Attend the pre- and

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postoperative ward round with the surgical team, know the patient and procedure. In addition, you should know what is on the operating list (readily available from theatre staff or the consultant's secretary). In theatre, get to know the scrub team by introducing yourself to the health-care assistants, scrub nurses and anaesthetic staff. If this is the first time that you are scrubbing in, then ask one of the scrub nurses to teach you the correct way of scrubbing and assisting. The more you are present, the more you become part of the team, the more comfortable you will feel and ultimately the more you will learn.

Tip 4: keep an eLogbook

Keep, develop and maintain an extensive surgical logbook of all cases that you have scrubbed in for, to either assist or perform under supervision. Sign up to the Pan-Surgical eLogbook on www.elogbook.org as a junior medical student and start to log every single operation you have observed, assisted or performed. Ideally, keep this information in a searchable application and ensure that it is anonymised. You will need basic patient details to input into the logbook (Royal College of Surgeons of Edinburgh, 2015).

Developing a surgical logbook as a medical student demonstrates strong commitment to a surgical career and will allow you to develop your basic surgical skills, which will stand you in good stead for surgical interviews.

Tip 5: surgical simulation

The UK undergraduate curriculum has evolved with a greater emphasis on ethics, law and community medicine and less time spent in hospital (Wass et al, 2003). This has direct impact on exposure to surgical specialities.

Surgical simulation training leads to detectable benefits in the operating theatre. It is vital to develop these skills as a junior doctor. In addition to improving confidence, prior exposure to simulation will enhance postgraduate skill acquisition and lead to more time-efficient surgical training. Johnston et al (2013) showed that training on a portable laparoscopic simulator significantly improved core laparoscopic skills in medical students with no prior exposure. As a junior doctor it is easy to access such box trainers at your local hospital. Hospitals often have a clinical skills laboratory with access to laparoscopic box trainers. Contact

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the clinical skills director and see if you can practice your laparoscopic skills on these models. High fidelity (life-like) models have limited availability and are expensive. Matsumoto et al (2002) showed that fidelity is less important at early stages of training. There was no difference in performance among medical students trained using a high fidelity endoscopic urology system and another group with the simple bench model (Matsumoto et al, 2002).

Skills gained during simulation are transferrable to the operating room. Residents who received such virtual reality laparoscopic training performed the dissection more quickly, made fewer errors, and had higher economy-of-movement scores than residents with no training (Seymour et al, 2002; Cox et al, 2006).

Tip 6: undertake a surgical audit or quality improvement project

Clinical audit is defined as 'a quality improvement process that seeks to improve patient care, and outcomes through systematic review of care against explicit criteria and implementation of change' (Health Research Authority, 2015). Quality and service improvement is an integral component of surgical training. When applying for surgical training posts these aspects are weighted heavily. The authors recommend starting a surgical audit project early on in foundation training. This shows knowledge of the audit cycle and clinical governance but also shows early commitment to surgery. Starting early also has the benefit of allowing sufficient time to complete the audit loop (Nikkar-Esfahani et al, 2012).

It is easy to set up an audit project during the foundation years. Speak to the consultant you have worked with and enquire. Most are only too happy to help develop and oversee a project, particularly as audits are a General Medical Council requirement for all doctors. The audit department within a hospital often have orphan audits (projects which have been started but not finished).

The most important part of the audit is to complete the audit cycle after implementing changes over a set period of time. This

involves re-auditing to see if the changes you have implemented have made a change in clinical practice and patient care. Starting early facilitates this process in a timely manner.

Tip 7: spend some time in outpatient clinics

Surgical outpatient clinics are an excellent place to practise history taking and clinical examination, and to learn about various surgical conditions. Evidence suggests that outpatient clinics remain underused as an educational resource (Bowen and Irby, 2002).

It can be challenging for a busy foundation doctor to attend outpatient clinics, especially with low staffing levels on the ward. Consider using the same techniques as for attending operating lists. Maintain a reflective log of any interesting cases that you have seen or discussed. Use these as a springboard for extending into a case-based discussion with your trainers. Always ask for feedback on performance. Use the opportunity to observe how the team interact with one another and with patients. Even when not directly presenting patients there are always opportunities to learn and discuss the patient's journey. The clinic is a true community of practice where situated learning occurs without effort (Lave and Wenger, 1991).

Tip 8: develop your teaching skills

The word 'doctor' in Latin means teacher. Doctors teach students and colleagues as well as other health professionals. When discussing diagnoses with patients, they teach patients. Patient education has a positive impact on health. Like any other skill it may be developed (Dandavino et al, 2007).

An understanding of how adults learn, teaching styles, how to adapt your teaching to the environment and understanding of feedback form the essentials of theory. Information on these basic principles is readily obtained from medical education texts. In addition, more and more speciality applications are rewarding points for a qualification in teaching. This can be achieved by completing a part-time distance

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learning postgraduate certificate in medical education. This may be more appropriate for the senior foundation doctor (F2+) as it requires good time management in order to complete the modules.

Discuss opportunities for teaching with your surgical mentor (see tip 1). Keeping a reflective log of your teaching activity allows you to develop your skills, identify your weaknesses and incorporate new ideas.

Furthermore, it is well established that feedback improves performance (Hattie and Timperley, 2007). Constructive feedback can be obtained from students and self-reflection (Ende, 1983). Set up a teaching programme for junior medical students or even A-level students on clinical or non-clinical topics. Design a feedback form and reflect on your teaching. Teaching skills must be learnt and perfected like any other clinical skill. It is essential to start developing this skill within medical school, and evidence this in your portfolio. With a steady trickle of teaching throughout your foundation years and appropriate feedback you will be surprised at how much better and more confident you become at teaching, which can only enhance your portfolio.

Tip 9: gain leadership and management experience

Effective team-working skills improve patient care. The surgeon is no longer the ‘captain of the ship’, but leads a multidisciplinary team where the focus of attention is the patient (Royal College of Surgeons of England, 2014). Good surgical leaders are honest, open and consistent, are open to challenge and feedback, and act with integrity (Royal College of Surgeons of England, 2014). Leadership skills can be learnt and should be developed during medical school. The Medical Leadership Competency Framework (2010) sets out some leadership domains for medical students:

Demonstrating personal qualities

Self-awareness is an important aspect of developing leadership qualities. You will, as part of your foundation years, request 360° feedback. Reflect on your strengths and

weaknesses. Use the foundation e-portfolio and get team members including your supervisor, nursing staff, physiotherapists, pharmacists and other junior doctors to fill it in. Use the feedback to improve.

Working with others

During foundation training there are many opportunities to practice team working skills, for example, being in a sports team, working as part of a multidisciplinary team in hospital and working with other health-care professionals. In order to improve these skills try and get some peer feedback from fellow doctors in your year group. As you become more senior you can practice more leadership and teaching skills with your junior years.

Managing services

During your clinical years, try and gain an understanding of how the clinical services function. Shadow a hospital manager and reflect on how different teams work and function together. Quality improvement projects often interface with service management and will give you an opportunity to gain insight into these areas.

Improving services

As mentioned earlier, it is important to partake in quality improvement and audit projects to develop your analytical thinking.

Tip 10: research presentation and publication

The General Medical Council guideline *Tomorrow's Doctors* (2009) states that trainees must be able to ‘evaluate and integrate evidence critically’. Involvement in research can help acquire essential research skills and generate doctors who practice evidence-based medicine (Nikkar-Esfahani et al, 2012). Medical schools are starting to integrate research into the undergraduate curriculum (Abu-Zaid and Alkattan, 2013).

Research involves data collection and may take place in a clinical or laboratory setting. Most surgical departments have numerous

ongoing research projects. When you have arranged a meeting with your supervisor, it is important to be well prepared. He/she will expect enthusiasm and commitment and expect you to know a little bit about his/her research interests. It may well be that you have your own interests in mind; do not be afraid to propose something you think is interesting and original. Not all research is clinical; it is equally valid to consider educational research.

Set a timeframe for the project and discuss with your supervisor how much time you can realistically spend on the project. In the early stages of designing a project, it is important to identify a research question that you plan to answer along with how to measure the outcome measure. The outcome measure should be relevant. Before commencing a project, it is essential to gain approval from a research ethics committee (Nikkar-Esfahani et al, 2012).

Many organizations offer funding for research projects undertaken by medical students. Application for these grants requires forward thinking and you must provide full details of your project and supervisor. Finally, there are many research collaboratives (STARSURG) that allow opportunities to engage in clinical research (Chapman et al, 2015).

Tip 11: publish and present your work

If you have started a research project aim to present your work at a local, regional, national or international conference, and publish in a PubMed indexed peer-reviewed journal. Audit and quality improvement projects may also be presented in a similar way. Many audit projects are accepted for both presentation and publication. Ask your supervisor about which conferences he/she may wish to submit the project to. A poster presentation is a summary of the entire project. A podium or oral presentation is a 5–10-minute summary of your work, usually in PowerPoint format.

Publishing your work often takes patience, hard work and determination. The first step is to identify the journal that you want to submit your work to and write the paper in accordance with the journal's specific guidelines. Before writing the manuscript, look at the author guidelines and stick to them. The publication process can often take months to years.

Tip 12: attend extracurricular courses

There are numerous bodies that run courses designed for foundation doctors. Attending surgical courses demonstrates commitment to the field of surgery and can help you score well at postgraduate interviews. The Royal College of Surgeons runs several courses such as basic surgical skills, START surgery and Advanced Trauma Life Support (Royal College of Surgeons England, 2015). It is important to bear in mind that although these courses are worthwhile, they can be expensive.

Conclusions

Achieving success at core surgical training selection does not occur by luck or chance. Think carefully about how to plan your campaign. Ultimately it is within your gift to attain a post. The tips outlined in this article provide focus for your attention. There is significant crossover and commonality within the domains. Take advice from peers and those who have succeeded before you about how they did it. Take guidance and direction from senior colleagues and trainers. The 12 tips are a framework which when applied will create a bigger picture which is greater than the sum of its parts. Above all else enjoy the process – after all, this is the first step on a long journey. **BJHM**

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KEY POINTS

- Be organized. Use your initiative to start surgical audit projects early, which will give you the time to complete the audit cycle.
- Have a surgical mentor and have regular meetings with him/her to help guide you in the right direction.
- Preparation is the key to success. Organize evidence of all your achievements into a good lever arch file as early as medical school and foundation years.
- Keep an electronic log of all theatre experience ranging from cases that you have observed to cases you have been supervised in performing as this demonstrates commitment to surgery.
- Start one good research project in foundation year 1 and aim to get it presented and published in a peer-reviewed journal.

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