

DEVELOPING THE BEST SURGEONS

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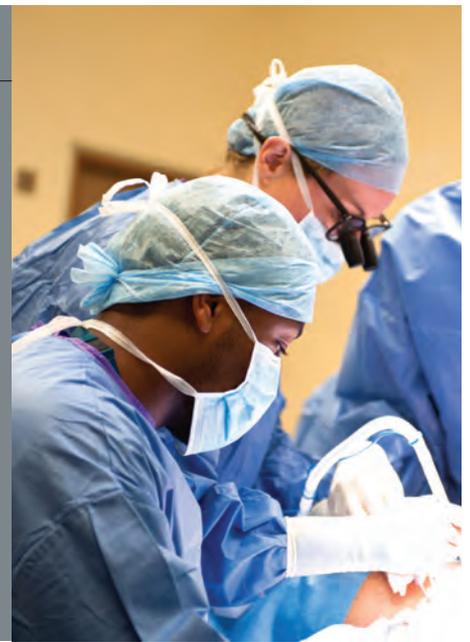
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The Opportunities in Surgery committee of The Royal College of Surgeons of England has many responsibilities within its remit, including the provision of advice to all those wishing to pursue a surgical career. We encourage their personal and professional development in order to ensure that we recruit the best pool of individuals, who are truly able to meet the demands of the unparalleled responsibility of a career in surgery. It is more imperative now than ever before that we develop the best surgeons for the future.

Ann R Coll Surg Engl (Suppl)
2013; **95**: 296–298

Which surgeons are the ‘best’ would very much be an matter of perception. In the eyes of an academic institution, the best surgeons would have the greatest publication/citation record and attract the highest levels of research funding. Managers in NHS institutions may perceive the best surgeons to be those who attract the fewest complaints or claims for litigation, or manage their teams and their waiting lists well. Consultant colleagues may think that the best surgeons have the best outcomes, and display good judgement, leadership, decision-making and technical skills. In addition to all this, the most important cohort who should perceive us to be the best is the patient. Most surgery is straightforward and goes well. Other ‘surgical’ patients may have a non-operative treatment but most will have trust in their surgeon as being one of the best.

Competence has now become the benchmark by which surgical trainees are assessed. As high as the standards may be, this system does not inspire excellence. So how does one develop the skills and potential to truly lead a profession such as surgery? There are a number of traits that are repeatedly observed in successful surgeons; some innate, some learned and some portrayed. It is clear, however, that the development of knowledge, skills and attitudes commensurate with success are likely to be at the centre of this. But what else is there?

Good judgement is a hallmark of the best surgeons, and can be most clearly observed when individuals are forced to

make decisions in situations of adversity. The art of decision making is challenging to acquire and requires rapid and accurate appraisal of incomplete and conflicting information. In the initial stages of one’s career, decisions are consciously based on mathematical probabilities, systems and modelling.¹ With maturity and experience, however, good surgeons replace these strategies with wisdom. In addition, the best surgeons are able to appreciate and use the wisdom of their peers.

Wisdom is a highly honed but subjective version of the aforementioned strategies,² combined with a deep understanding of oneself (including strengths, limitations and prejudices), the subject of the decision (clinical problem, patient, conflict) and other factors. These other factors include things that may directly influence the problem, such as knowledge of the team or service, as well as those that may have an impact on the choice of solution, such as how the problem is perceived from an external position.

Innovation in surgery requires insight and creativity. When faced with intra-operative obstacles some surgeons may persist with their operative routine with clear disregard for the barriers that have presented themselves. The ability to change the plan, try something different and alter the problem into something solvable requires this creativity. Innovators simply take this one step further. While most would probably mentally revisit steps of a challenging procedure postoperatively, few would ask the important question: what could we fundamentally change about the way this operation is performed to improve

it? Taking the time for such a back step and allowing oneself to think creatively probably isn't something that comes easily to the busy, objective, scientific surgical mind; however, it is something we would encourage. You may well be surprised by the productivity of that investment.

Of course, the story does not end with innovation. The cautious early adopters of this new technology are those who deliver the greatest impact by turning the fad into acceptable practice and generating the evidence base that others follow. For the implementation of change, the most important individual is not the innovator, but the 'first follower': the first person to independently validate another's concept and modify their own practice accordingly.³ This individual paves the way for the early adopters of the new technology, followed shortly by the financial investment to modify and improve the technique. More individuals will follow, the industry will grow and costs will fall. By this time a significant number have changed practice, and evidence begins to accumulate. This is the tipping point for the vast majority of the profession. Finally the late adopters join the movement for fear of finding themselves out on a limb. With the literature brimming with work on the need for good leadership, the importance of followership has been lost. The best surgeons will know when to lead and effortlessly step up to the mark, but they will also identify who is worth following.

Beyond the operating theatre, and indeed clinical practice, the best surgeons will achieve highly in other facets of their career; be that in research, education, leadership and management or something else. To be able to focus upon such a portfolio of achievements, one needs to be able to achieve the basics effortlessly. Alas, there is no substitute for the several thousands of hours of practice that mastery of a surgical technique requires.

Or is there? Experience and repetition breeds familiarity and expertise, and there is now a growing movement of simulation in surgery, with systems and simulators designed to develop and test all of the prerequisite technical and non-technical skills required.⁴ While we need not con ourselves into thinking that hours of computer gaming is likely to generate the best surgeons, there

is a good argument for suggesting that deliberate practice by simulation be used to 'pre-train' trainees in operative steps and techniques such that their time in surgical training can be spent a) honing their technical skills within the context of live operating b) developing other clinical and non-technical skills and c) developing other areas of professional interest.

Perhaps the greatest benefit of simulation would be the early acquisition of technical skills so that the individual can subsequently focus on things that are really going to make a difference to their career, their patients and the service.

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We do, however, have a number of problems within the profession, and they go back as far as the undergraduate curriculum. While a thorough grounding in general medicine is imperative to successful clinical practice, in order to succeed in surgery one must gain insight and exposure to this. In fact, all future doctors need to be familiar with the surgical way of thinking: decision making, only ordering tests that alter management, dealing with complications, etc.

Medical students must use their fluid schedule to ensure they achieve this, making use of the numerous technological resources that exist (eg electronic textbooks, medical apps, surgical podcasts and Webexes), conferences and workshops to ensure that every minute is used with maximum efficiency. Students need to engage with the profession at a deep level, and this engagement will facilitate opportunity. Eagerness to assist in theatre ensures that those qualities that define the best surgeons, such as their composure and demeanour, can be tacitly learned. They should be aware, however, that some surgeons qualified 30 years ago, and the skills that they themselves will need for their career may well be different. Persistence and flexibility are key to identifying these opportunities;

opportunities that in turn will develop interest, facilitate motivation and drive performance.

It is important that aspiring surgeons reflect on the motives behind their career choice. For some, the challenge of merely becoming a surgeon dominates their aspirations – an opportunity to immerse oneself in a competitive and respected environment. And while with a hatred of failure comes a propensity to succeed, it is hard to see how these individuals will ever become the best. Human nature dictates that most will search endlessly for the quickest and simplest way to achieve success.

Developing such a passive role within a competitive field is detrimental, and facilitates nothing but to become a passenger within the profession.

The best surgeons are curious, and have a genuine interest in what they do. They act deliberately because they understand their actions, ask extra questions of their patients because they want to understand them, conduct research that strikes at the heart of a clinical problem they have encountered and allow their own interests to develop. In short, they enjoy themselves. This enjoyment maintains motivation and interest throughout the course of a career, allowing individuals to repeatedly recreate themselves within their field. It could be argued that mastery of the practical operative and clinical skills and the development of unconscious competence frees the surgeon to develop his or her own interests over time.

Do we choose the best surgeons, or do we train them to become the best? Selection to surgery has become so objective that most will perceive the only way to succeed is to identify a long list of objectives (at an increasingly early point in the student's career) and set about achieving them with ruthless efficiency.

These certifiable achievements must, however, be seen as a prerequisite and should not monopolise efforts or be perceived as the end game. We argue that students and junior trainees should do these things out of curiosity, and the pursuit of knowledge and personal development; that in aiming for the career in its totality, rather than just the job, the boxes will tick themselves.

However, we fear that this approach may, sadly, not ensure success in the current system. Those with evident potential and the necessary personal qualities – attitude, fortitude, vigilance, intelligence, work ethic, etc – will require careful mentoring and nurturing to ensure successful navigation through the process. Most surgeons will be able to cite an inspirational mentor who was supportive during their formative years,⁵ and we must ensure we do the same. Finally, no matter how strong the desire and how solid the character, nothing always goes according to plan. Aspiring surgeons need perseverance to continue despite failure, to learn from mistakes and carry on when they've stumbled. These experiences in themselves will help to breed the best surgeons of tomorrow.

To some extent, some of the dynamism once required by surgeons is being replaced by more structured methods of ensuring that systems do not fail. But what personal traits can be seen in the best surgeons?

They must lead, motivate, communicate, direct and inspire. They must be committed, driven, possess endless enthusiasm and continuously strive to improve themselves. They must be successful technical operators, medical experts, communicators, collaborators, managers, trainers, health advocates, scholars and professionals. They must possess the judgement to know when and when not to operate, and the confidence to operate with the conviction that they are benefitting their patient. They must be ambitious, and possess the imagination and creativity to conceive new techniques, the charisma to inspire trainees and the camaraderie to support their peers and, indeed, allow themselves to be supported. They are hungry for professional development while remaining humble in competence. They appreciate their team, have no fear in seeking help and continually chase improvement. And while this seems like a tall order, in reality it is incumbent on all surgeons.

These skills must be regarded as a set of modifiable behaviours that can be refined with time and ongoing practice. Those regarded as the best surgeons normally achieve such a reputation not only by their prowess in the aforementioned core traits, but also by becoming world-class performers in another sphere, which is separate from and yet still related to surgery.

To be the best, one has to work alongside the best. While a further skill in itself, cooperating and collaborating within a network facilitates idea development and provides the critical mass necessary to achieve impact and influence. Efficient networking between surgeons also allows easy discussion and referral of clinical problems. Trying to foresee how the rapidly changing surgical landscape will evolve is a near-futile task. Suffice to say that progress, as in all science, will be incremental. Never has the saying 'survival of the fittest' been more aptly applied to the profession, and with ever-increasing scope for personal and professional development, it is no wonder that tomorrow's surgeons are likely to be some of the best ever encountered.

Acknowledgements

We would like to thank all those who submitted an abstract to this year's Professor Harold Ellis Medical Student Prize. Their insight and contributions provided much discussion on the topic.

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