Cardiol Young 2005; 15 (Suppl. 1): 165–168
© Cambridge University Press
ISSN 1047-9511

I wasn't trained for this!

Martin J. Elliott

Cardiothoracic Unit, Great Ormond Street Hospital for Children NHS Trust, London, United Kingdom

As once observed by Tom Spray, "When they invite you to give the history talk, you're finished!" Those words flashed through my mind when I was invited to deliver the version of the lecture celebrating George Daicoff, and forced me to think carefully about what I do, and what I believe about doing it. I have been doing cardiac surgery for 25 years, and paediatric cardiac surgery for 20 of those. Looking back, it would be tempting to think that I am here to follow in the illustrious footsteps of Kirklin, Debakey, Lillehei, Cooley, Ross, Yacoub or Daicoff. But I have to admit that would not be the truth. I was more influenced by Dr Kildare and M.A.S.H., driven by the drama of their lives and the beauty of their nurses. I have not been disappointed.

I trained, conventionally enough, in the British system. Five years at medical school, followed by a one-year internship, drove medicine out of me. These were followed by a year of teaching pure anatomy, and obscene mnemonics, to feckless medical and dental students in preparation for my examinations at the Royal College of Surgeons. I then trained as a general surgeon, passing my final examination at the Royal College 5 years after graduation. Training in cardiac surgery began in 1978, and after various training posts, I became a staff surgeon at Great Ormond Street in 1985. All my jobs whilst training were busy and, in those halcyon days, residents really did perform the operations. I considered myself *trained*, especially after having spent 6 years as a senior registrar. It took 1 week as a staff surgeon for me to realise that there was a bit more to it than that!

I expected to see patients, share with cardiologists the decision about the best therapy to advise, and to operate successfully on those patients that needed it. I expected to have time to discuss options with families, and to use my experience and hard-earned bedside manner to put them at ease. I thought I might do the occasional operation that would bring the patient back from the jaws of death, and I was prepared for the anguish and guilt of failure. I am, after all, from Yorkshire. In all of these I was right, but only for a while.

I hereby warn the new appointee of the dangers "out there". There are people who give you things to do. Allegedly, these are "little jobs": committees, the odd lecture, perhaps a chapter, or an article for a magazine, appearance as an expert witness and, of course, management. You are ambitious. Twelve years of life as an obsequious resident has taught you to evict the word "no" from your vocabulary. Your Curriculum Vitae looks miserable when compared with that of your senior colleague. The Dean asks when he or she might expect the next grant application. And then there are the Air Miles to collect around the galaxy of International Meetings.

I used to operate a lot, but not now. The balance of my life has changed. Alarmingly, it has moved away from areas in which I was trained and felt both competent and confident, to areas in which I am not trained, but where I have "picked up" my alleged skills, and am not confident enough to know whether I am competent. I show what I mean in Figure 1. The left hand pie-diagram shows the proportion of my time taken up by the various activities I now have to undertake. You can see that only one-quarter of my time is now spent doing the job for which I primarily trained. The rest is made up of activities that any senior surgeon will recognise, such as management, writing, teaching, and so on. Like most of us, I have had no direct training in these skills, and have had to acquire enough skill to survive in the shark-infested pool of modern health care. It is well

Correspondence to: Professor Martin J. Elliott, Cardiothoracic Unit, Great Ormond Street Hospital for Children NHS Trust, Great Ormond Street, London WC1N 3JH, UK. Tel: +44 207 829 8853; Fax: +44 207 813 8262; E-mail: EllioM1@gosh.nhs.uk

https://doi.org/10.1017/S104795110500123X Published online by Cambridge University Press

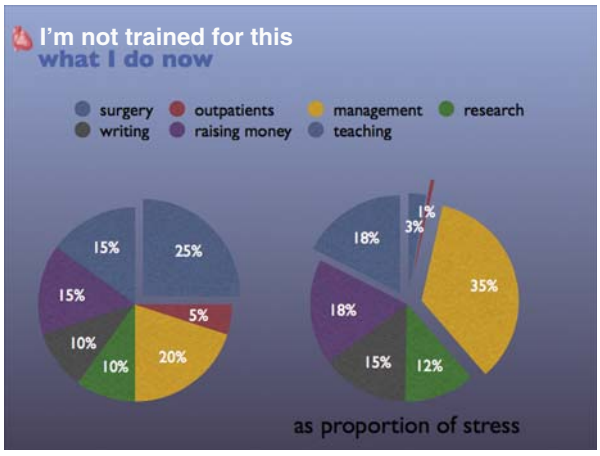


Figure 1.

recognised that good training, and the possession of competence, reduces the stress of a task. I am no exception to that, and the right hand pie diagram in Figure 1 expresses the balance of stress in my life as I see it. The surgery is a pleasure. The management is stressful, mainly because I hate working with money. Would it be different, I wonder, if I were trained in these areas? I feel pretty sure it would. Anyone who has had to fix a car, or do a job around the house, knows how easy it seems the second time round, when you use the right tools! Perhaps it is just the difficulty of working in a nationalised health system (with complex budgets rather than simple cash flow) that really stresses us. Or perhaps it is the sea of paper that seems gradually to overwhelm us. It is certainly the pressure of time. Patients, and their problems, rarely wait in my field, and we are committed, as a business, to sustaining a focus on our customers. Unusually for a largish business, but commonly amongst surgeons, I work both in senior management and directly on the shop floor. With patient-related tasks taking priority, the administrative work is often performed out of hours, or under pressure. This is not the best way to do anything, I fear. I am not alone in these perceptions. All my consultant colleagues have felt the same anxieties.

To these stimulators of stress is added the problem that much of the agenda is set from outside, in our case by political influence on the National Health Service, or by imposed short term targets which totally modify one's perceived ambitions for the department. Doctors are trained throughout their career to take, and indeed expect, control. Yet modern management is all about negotiation within a framework of rules alien to many medics. And I have not even mentioned dealing with difficult colleagues, or the impending imposition of the European Working Time Directive. I thought I was going to care for patients, but where has my European time gone? To meetings!

I have learned things, but if I had been *trained*, would I have been better?

Conventional training for cardiac surgery, both in North America and the United Kingdom, is based around the principle of a good grounding in general surgery being necessary to perform well as a cardiac surgeon, and then that adult practice should precede a move into paediatric cardiac surgery.

This preliminary training usually involves rotational periods in other surgical specialities, such as orthopaedics, neurosurgery, trauma, plastic surgery, and so on. I often ask my residents if they found any of this useful. I should own up to the fact that I hated general surgery with a passion, and never succeeded in learning neuro-anatomy. Few feel that anything other than the basic surgical skills of knot-tying, needle-holding, and form-filling have been of much use to them. For my part, only the time spent doing anatomy, plastics, and cardiothoracic surgery has been of lasting value.[1] I want to consider why this might be so.

Cardiac surgery has evolved considerably during my career. In paediatric practice, there has been, however, one remarkably constant feature. This is the close working relationship with cardiologists. The best cardiac surgeons I have seen have also been outstanding cardiologists, although they might not recognise that in themselves. In the current era, and associated with the development of interventional cardiology, there is increasing overlap between the roles of the traditionally diagnostic cardiologist and the traditionally therapeutic surgeon. There is also overlap with other specialities in my working life. Figure 2 outlines the medical skills I now use on a weekly basis. Interestingly, only two-thirds of that practice is in subjects for which I have had any formal training. Once again, the rest I have learnt "on the job". These observations suggest that I am trained for less than a quarter of what I do! And they suggest to me that the miserable years I spent doing general surgery were, potentially, a waste of my time. Would I not have been a better paediatric cardiac surgeon if I had studied paediatric cardiology for 1 year rather than general surgery, or spent 6 months exploring magnetic resonance imaging rather than Accident and Emergency? I feel sure I would. Such a training

[1] Interestingly, I recall being given more basic surgical technique training in the emergency room of the Baroness Erlanger Hospital, Chattanooga, Tennessee as a medical student extern in 1971, then as a Senior House Officer in the United Kingdom where I very much "learnt on the job".

https://doi.org/10.1017/S104795110500123X Published online by Cambridge University Press

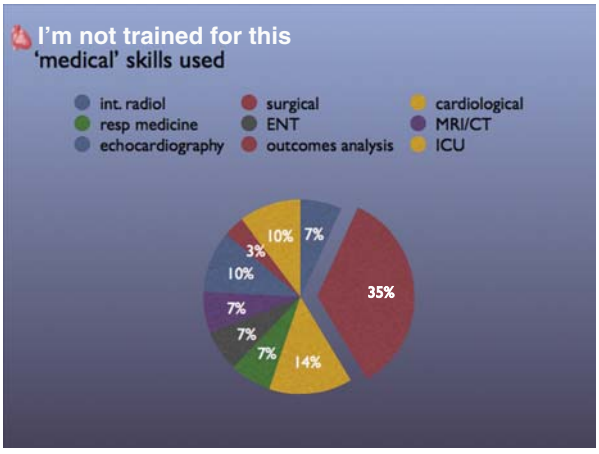


Figure 2.

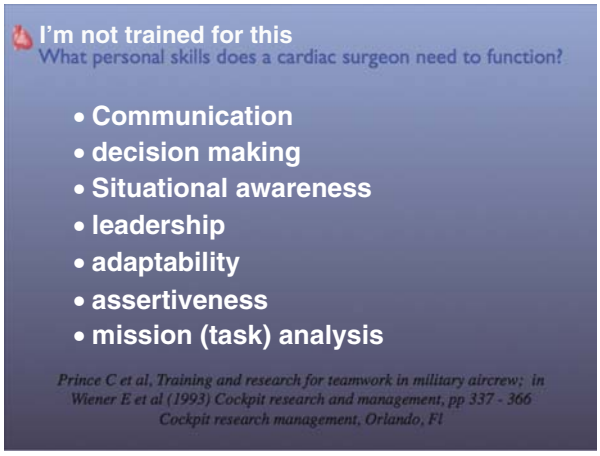


Figure 3.

across disciplines would certainly have more relevance to my daily life than many of the things I have done. And it would fit better with the widespread view that multi-disciplinary working is more effective in delivering care to the patient.

My friends who are musicians are fond of drawing parallels between their lives and mine. A soloist working with an orchestra is superficially similar to a surgeon leading a team in the operating room. They both have to perform their "craft" to a high standard, they must function in concert with the people around them, they must dictate the "style" of the piece of work they are undertaking. And the outcome they both seek is success, measured by outcome and adulation. Yet the parallel can only loosely be drawn. Musicians are totally committed to their craft. Peripheral activities are usually handled by others, for example, agents, orchestral managers, accountants, and so on. The musicians work for themselves. Additional work, for example teaching or management of festivals, are rewarded separately, although usually minimally. Whenever was teaching rewarded in surgery?

Most importantly, though, musicians usually have a teacher of their own, a mentor who stays with them even when they are successful. Performing a craft is a lifelong experience of learning, and we would all benefit from the model provided by the musicians. Instead, surgeons are taught to compete with each other, to function independently wherever possible, and are often seen as weak if they ask for assistance from a colleague. We have much to learn!

I recently came across a list of skills that seems perfectly appropriate for surgeons (Fig. 3). This list of skills, however, was defined for Naval pilots. My training at medical school, and the general mill of hospital life thereafter, has given me basic skills, such as adaptability, inquisitiveness, and direction, that have helped me pick up others. It has provided a few specific skills, such as competence-tested practical surgery, which make me better at what I do. Perhaps this combination is what one needs to "do what I do", but it clearly hasn't balanced my stress, or in my view equipped me with what I need. In retrospect, I want a lifelong teacher whom I choose, and a set of skills relevant to my current life. It is too late for me, but not too late to change it all for my successors.

Medicine is not static, of course. What I think I need now may not be the same as I will need in a few years. But some things are clear, and not guesswork. The boundaries between specialisms are blurring. It is hard to tell an interventional cardiologist from a cardiac surgeon, a vascular surgeon from an interventional radiologist, a clinical pharmacologist from an expert on the endothelium. Increasingly we work in the same environments as a team, as for example in the suite used for magnetic resonance imaging. Yet, in many situations, we only know about each other's area by osmosis. The military has known for years the benefit of a limited amount of cross training, and we should recognise that, and learn from them. In my own unit, in 2001, we established a tracheal team for the treatment of long segment tracheal stenosis. The team was established for several reasons, but mainly to optimise both results and the efficiency of delivery of care. Key to that was the concept of cross-skilling, particularly with regard to bronchoscopy, bronchography, and stenting of the airway. The delivery of these services had been rate limiting steps. Integration of these skills has resulted in improved morbidity, mortality and reduced cost. What I have learned form this is that, although I led the service, I did not know enough. I needed some aspects of the skills of others, and when learnt, these skills improved our results. I am sure this could work with other teams.

https://doi.org/10.1017/S104795110500123X Published online by Cambridge University Press

We must recognise that we do, and will forever, work in teams, and that our needs during training must reflect that. There are presently huge pressures for change, for example working time directives, shorter training with less skilled junior staff, higher public expectations, a risk-averse public, the complexity of organisations, and the changing patterns of work. You could argue, as did Anna Freud, that: "Creative minds always have been known to survive any kind of bad training". To end my peroration, nonetheless, I would say that we must accept that not everyone is blessed with creativity, and there is no excuse for bad, incomplete, or inappropriate training when it is the lives of children that are at stake.

I want to be free from stress. Next time round, give me more cardiology, a Masters degree in Business Administration, a surgical teacher I can choose, and a glass or three of Latour'61.

https://doi.org/10.1017/S104795110500123X Published online by Cambridge University Press