

Original Article

Training in paediatric cardiac surgery: the history and role of training in a different country and even overseas*

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Abstract This paper presents a personal perspective on the value of training overseas in paediatric cardiac surgery. From personal experience and observation, I argue that travel does indeed broaden the mind and placing artificial constraints on movement of trainees is a negative move. We need to work with others, in other cultures to become rounded human beings. And to be an empathetic surgeon, you need to be a rounded human being.

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Paediatric cardiac surgery is an international sport

The anomalies we treat are the same everywhere, and the skills we need to manage them are fundamentally identical. It is an immense privilege we enjoy that allows us to get off a plane pretty well anywhere, and be able to help young people. Very few people, except perhaps actors and Starbucks servers, have that opportunity.

Right from the start of cardiac surgery in the 1950s, the need to train people throughout the world was recognised. Minnesota became a Mecca for those making the transition from thoracic to cardiac surgery and from closed to open repairs. Skills were taught and absorbed, and were developed further as physicians returned to their own states and countries. There was a huge unmet need and, to take a commercial view, a huge untapped market. It was international from the start.

A few of us reading this are old enough to have ridden that first great wave, which began to form

almost coincidentally with my birth; however, the wave was still eminently surfable when, as a student, I had my first, and formative, experience of international medicine. For reasons far too obvious to go into now, at the age of 20, 3 years into medical school, I decided that I wanted to do obstetrics and gynaecology and, with the innocence of youth, wrote to the American College of that specialty and made contact with a wonderful woman called Peggy Howard, a Dorothy Parker clone. She was working in The Baroness Erlanger Hospital In Chattanooga, Tennessee, and astonishingly said that I could work there for several months during the summer of 1971 as a paid extern.

I was hopeless at obstetrics, but learnt to love surgery, especially in a violent American emergency room, from mobile army Surgical hospital-trained Vietnam vets, and saw my first cardiac surgery – an emergency mitral valve replacement performed on one of the emergency room attendings. It was a great summer in so many ways. I learnt many things, all of which have relevance to this debate.

- That I agree with the famous quote of St Augustine, “the world is a book, and those who do not travel read only one page”.
- That there are many ways to skin a cat, and often the only way to appreciate those methods is to see them in action, in their correct environment.

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- That there is wide variation in experience, quality of training, and skill levels. Some doctors are mad or stupid, some doctors are brilliant, and they can come from any country.
- That I wanted to work with the good ones, wherever they came from.
- That there is a wide variation in patients, and I did not like smelly ones. I wanted to work with children.
- That no health system is perfect, and poverty is bad for you, wherever you live.

Of course I learnt much more, but Chattanooga induced in me an abandonment of parochialism, a need to explore, and a pursuit of excellence. I returned to the United Kingdom knowing that I wanted to do surgery, able to tie knots, and with a profound love of mint julep.

Training in the United Kingdom was similar in principle to training in the United States of America. We did intern posts and often, as in my case, taught pure anatomy for a year to study for the first phase of surgery examinations, and then trained in general surgery to the Equivalent of Board level – the Fellowship of the Royal College of Surgeons; one had to rotate through a number of specialties, including at least 2 years of general surgery, 6 months of emergency medicine, and at least two six-month appointments in specialties of your choice. For me that was cardiac surgery and plastic surgery.

At the time, late 1970s to late 1980s, there was no mandatory higher qualification in the sub-specialty of say cardiac or plastics, and certainly none in congenital heart surgery. The ability to get an attending job was based on your experience, your references, who you had worked with, and – increasingly as time went on – your research achievements. Laudable though these research aims were, achievements were often measured by weight rather than quality, and “research” became something you had to do rather than necessarily either believed in or had the talent to succeed. A lot of people fell by the wayside to filter out those who finally got appointed.

Those training to be congenital cardiac surgeons were also actively encouraged to go to high-volume centres, led by “names” in the field. In the United Kingdom, this meant Great Ormond Street to most and to a few Liverpool or the Royal Brompton in London. A small number went to Southampton to be with Jim Monro and Sir Keith Ross. Even that training was not considered to give enough experience, and we were actively encouraged to spend some time abroad. Usually this meant United States of America, Canada, or Australia, and it became known jokingly as the Been to America (BTA) certificate.

There was no curriculum, no expectation of specific learning points, but a general appreciation

that one would learn and improve. The experience that people had was, as we all know, variable, ranging from outstanding to appalling; however, you had your BTA, you had a few papers, you were a grown up, and you could apply for a job.

Some have argued that this was survival of the fittest, and a sensible Darwinian approach to achieving excellence in our discipline. Perhaps true, but how many of those who fell by the wayside could have been good given the correct training? I remember drawing attention to the issue of doing jobs without adequate training in my Daicoff lecture in Saint Petersburg a few years ago. I was running a hospital, but had never had any relevant management training. In fact, I had a huge amount of training that I would never use, but none in useful stuff like nursing, ICU, or echocardiography. They had all been learnt by osmosis, and definitely not by training.

Colleges of surgery throughout the world began to formalise training structures as specialties developed, and especially as they realised the wide individual variation in operative experience. Readers do not need reminding of the arguments and challenges that led to the creation of a specific congenital heart surgery curriculum, designed to include a staged performance of progressively more complex procedures under appropriate supervision. What is not to like about that? If you were a parent of a child with CHD, I am pretty sure you would want to have the surgery performed by someone who could prove that they had done enough and not just in possession of a BTA equivalent.

Exactly which operations would be done when and how many should be performed were, and are, bound to be controversial. In health systems where the surgeon might end up in solitary or minimally supervised positions, say in small-town private practice, then that surgeon needs to be the finished article when they get out. On the other hand, if someone is joining a large, highly varied practice in which surgeons operate together and supervision and teaching persist well into the attending period of one’s career, one might value *promise* rather than an absolute number of procedures performed.

Thus, decisions by colleges need to relate to the circumstances of their country, the wider organisation of health care, and the post-employment supervision available. It is thus not for those in other countries to criticise the decisions made by colleges and societies within a country. Circumstances vary.

We should, however, address where such training that counts towards relevant expertise takes place, and specifically whether training at a *foreign* centre should count towards one’s overall training and readiness to practice. Around the turn of the century, this more proscriptive approach to training coincided

with decisions not to recognise, at least officially, training received overseas. Indeed, in most specialties, such time overseas is referred to as experience. In the United Kingdom, such overseas experience is welcomed, encouraged even, but does not count, and neither do the operations one performs overseas. Unless I am mistaken, the same applies for United States surgeons wishing to “train” abroad.

I have to say, this strikes me as utter madness. It neither respects the centres to which the surgeon goes nor the time and energy that the candidate has to put in to acquire that experience; one only has to consider for a moment the people who have benefited from a period of training abroad. Consider the occupants of the room where this paper was delivered. Some people there spent time at great Ormond street hospital.

In 2005, almost 50% of programmes in the United States of America had a great Ormond street hospital trainee on staff. Was it worth it, did they get any training, were the teachers there teachers of sound mind and appropriate ability? If you value such training, why not the college or society? I understand that it can be hard to create a list of recognised training institutions, but in our discipline is that really a problem? After all, we are quite happy to benchmark our Norwoods against Milwaukee or our Ebstein’s against Boston, so why would the United Kingdom not recognise them as appropriate years of training? Just because it is difficult, it does not mean that we should not do it. Our discipline loves attempting the impossible; indeed one could argue that for most of us it is a *raison d’être*.

There are good centres in every country, and some are excellent. They fluctuate from time to time, but, within the profession, we all know that, and centres should be removed from an approved list if their performance as trainers or in terms of clinical outcomes and volume shrink. I want to be treated by those who learnt with the best.

My plea to those who run this stuff is to open up your training, and not to build walls. Walls may be useful in the short term, but their long-term consequences have never been good. They are protectionist, anti-competitive, discriminatory, and promote resentment.

The lack of recognition for overseas training is at the least a shame; however, it also represents a very narrow view of what education is all about. A narrow perspective begets bigotry and either arrogance or defensive view of one’s own position. Travel broadens the mind, and in the context of a year working in another major centre let us consider the domains of potential benefit.

- A different health system. Compare and contrast a state-run system costing 7.4% of gross domestic product with a largely private one costing 19.4% of gross domestic product.

- Facilities: I remember being astonished at what was available to some of my colleagues in the United States of America, and equally amazed at what was not available to friends in Poland, despite them getting similar results.
- Structure: within an organisation, there can be totally different ways of doing things, different standard operating procedures, different reporting structures, different information technology systems, etc; one can learn a great deal by seeing such things, and bring back ideas to one’s own service.
- Language: we all know how much language matters in medicine, and the United Kingdom and United States of America are classically two countries divided by a common language, evident if one has the opportunity to discuss the British word “Bit”, or what you need to repair a flat tyre. Whatever the difference, you are learning and gaining understanding.
- Culture: culture describes the ideas, customs, and social behaviour of particular people or society. Such are the benefits of travel; however, culture also describes the arts and other manifestations of human intellectual achievement. I can walk to every one of the theatres in London within 20 minutes. There are 40 theatres in the west end alone; seven of the world’s great orchestras are there each day. Paris is similar; it has three times as many cinemas as London, each city showing a massive range of international films in many languages. Both cities have art galleries, wonderful libraries and museums, and some of the best restaurants in the world.
- People: the people you work with while abroad become life-long friends. It is probably why I was asked to present this paper. I continue to value that friendship and to learn from each one of those friends. I continue to publish with them. Research, once local, is now international. I cannot value that highly enough.
- The big picture: if you only see the world through the lens of Fox News, Le Monde, or the Murdoch press in the United Kingdom, you cease to make your own judgements. Living for a while in another country teaches you to be very wary of absolutist views, and to learn to listen to and to respect the views of others. I understand Iran much better for having worked there; I have great respect for the Nordic system, now I am involved in it; and seeing other places in depth makes me realise what life is all about for me. Travel does broaden the mind, living somewhere else for a while keeps your mind open.

There are many more requirements than purely technical to be a successful congenital heart surgeon, or indeed any top-flight specialist. Breadth of intellect, open-mindedness, adaptability, resilience, empathy, and social skills are crucial. Working overseas adds to all of those. It should be encouraged, indeed fostered, and rewarded.