

Is our speciality going the wrong way? A personal perspective

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During recent years I have become concerned about the level of scientific knowledge of the specialist we are graduating. It may well be that the expectations have been too high, but then I would think that everybody would agree that aiming high rather than low is what we should be doing. Naturally, there will always be the exceptions, but my main concern is about the average level, and it is in this context that it should be viewed.

To explain my concern, one has to take cognisance of the (delicately) balanced “world of academia” versus technology as it applies to medical specialities. In anaesthesia (as in other specialities) there is a need to accomplish certain tasks. Hence, a certain degree of **technical skill** is required to successfully manage patients. The **academia** concerns itself with the generation of appropriate and scientific thoughts, which is the foundation of what we as practitioners do.

In daily practice we, as anaesthetic practitioners, rely to a large extent on the technical applications of our speciality. The very substantial and worthy theoretical scientific basis of our clinical practice is instilled into our actions when anaesthetising and managing patients in both the perioperative period and in the intensive care unit. Although this knowledge (the academia) underpins our important role as medical scientists, it is seldom overtly visible. However, in my view, this makes us what we are. This is something of a dichotomous position, inasmuch as what outsiders see is indeed the technical part of the job while the science (which may well be invisible to the onlooker) is the substance of what we are.

There is constant pressure to push *inter alia* our speciality towards the technical side, when in fact it should be a balanced academia-technical approach. This is often expressed in the emphasis on protocols (for example), and in the complaints from the governing bodies that students are subjected to factual overload.

My experience during national examinations and in discussions with colleagues at all levels of the training spectrum has created an impression (and that is all it can be) that we are losing the academia-technical balance.

Once the technical aspect becomes the dominant factor in what we do, at the expense of the scientific knowledge base, then anaesthesia (and other sections of medicine) should be moved to the technicons and out of the university environment.

To lose this balance implies that either the academia or the technical skill is increasing at the expense of the other. From my point of view the academia of our speciality is being neglected. I say this despite the fact that one can perhaps be misled by all the wonderful new technical advantages and modalities which have become available. This of course may merely create an *impression* of imbalance.

Universities have traditionally been a place for thinkers. The theologians and philosophers found a natural home in academia (universities), where they could show that they kept themselves busy with the generation of thoughts. Hence, they determined the threshold to qualify for the title of an “academic”. Those who were mainly concerned with practical things, such as the engineers and the medical fraternity, were tolerated in this environment, because the research functions associated with these activities were the “thoughts” which qualified us to become part of the university. Hence the “scientific” basis of our speciality is the justification for us being part of academia, and certainly not the *practice* of clinical medicine.

The question is, where do we as a speciality see ourselves? Do we see ourselves amongst the technicians, or part of a balanced speciality with a wide perioperative practical application based on sound and strong science? I cannot see that any medical doctor, let alone a specialist, will be happy to be labelled a technician. Because of the visible predominance of this aspect of our work, we have had difficulty in achieving a hard-earned status amongst our medical peers.

A number of isolated incidents will perhaps illustrate my concerns:

- When answering a question on how to approach a patient who was having difficulty with oxygenation,

the response was: “an arterial line must be inserted and the inspired oxygen increased”. In my view, these actions could be mentioned in passing, but more importantly the answer should have been a structured approach on how to deal with the causes (and thus the theory or science) of the hypoxia.

- When answering a question on the causes of hypoxia, a common response is “ventilation-perfusion mismatch”. On further questioning to determine what exactly is meant, it becomes quite clear that examination candidates do not understand the concept. One must bear in mind that we deal with oxygenation on a daily basis, but in this case it would seem without understanding one of the very basic principles underpinning blood oxygenation.
- Everyone in anaesthesia has at one or other time used nitrous oxide, knowing that the locus of its action has always been a source of uncertainty. However, there is now new and interesting data that separates the hypnotic and analgesic effects. It was disappointing for me to find out that the vast majority of the candidates in the FCA part two examination did not have any idea about the (proposed) mechanism of action of this commonly used drug.
- There is a discreet incidence of local anaesthetic drug-induced neuro-tissue injury. Once again, this is a group of drugs used by everyone involved in anaesthesia. However, on questioning examination candidates about this side-effect, the knowledge displayed on the pathophysiology was appalling.
- I do not wish to get involved in the (silly) debate regarding the use of the pulmonary artery catheter. It would appear that the wonderful scientific world of cellular oxygenation and effective cardiac output is not appreciated nor understood. All of this substantive science is available, but is being ignored, backed up by insubstantial and questionable arguments.
- The use of the central venous pressure is suddenly, in some circles, an absolute. Because clinicians do not understand stress and strain, the central venous pressure is regarded as of little or no value. It certainly is not the central venous pressure which is absolute, it is the associated thought processes which are suspect.

These scenarios are but a few examples, which make me believe that we are yet again heading for the “big-syringe-small-syringe” approach to anaesthesia. Therefore, if the saturation is low, turn up the oxygen and do not concern yourself with the mechanism for, or the scientific explanation of the observation.

Where lies the problem? We often (and with justification) complain about the public health care environment in which we have to train registrars. I do not think it is optimal, but I do think it is more substantial, compared with the time when I started training. The fact of the matter is that the patients (and the pathology) are there, the libraries are well stocked (at least ours are), and there is still some supervision and guidance. There is no real reason for not utilising and enjoying the science of our speciality. This science is available for those who are interested, and for those who have the necessary curiosity.

The low level of scientific curiosity (I will refrain from labelling it an “absence”; that may well be an extreme and disappointing position) in my opinion, has two components: what the trainee carries in his or her heart (we cannot do much about the personalities), and secondly the installation of curiosity by peers and supervisors. In the latter instance, leading by example is paramount.

Is each and every one of us doing his or her best in advancing the curiosity and debate on the scientific knowledge of our speciality? We have to decide what it is that we want to be – respected scientists with a worthwhile clinical application, or technicians. If we decide we are scientists, then we will have to define what is required to make sure that this philosophy is imparted to our surroundings, and in particular to the registrars and junior medical colleagues who are considering pursuing a career in anaesthesia. If we allow the technician concept to continue, (assuming that my concern is valid), the message to aspirant anaesthetists will be, “that the technical skill is the major requirement of our speciality”. This may well attract doctors who do not appreciate the fact that we have a sound and strong scientific basis. Thus the wrong perception will continue and even be reinforced upon the next generation. Allowing this to continue will promulgate a negative spiral, and doom our worthwhile speciality to a position which is considerably less than what it deserves.

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