

Change or be changed; anaesthetist accreditation in echocardiography: is it time?

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*"...that it will ever come into general use ... is extremely doubtful ... because its beneficial application requires much time and gives a good bit of trouble to both the patient and the practitioner ... and because (it is) foreign and opposed to all our habits and associations ..."*¹

Anaesthesiologists worldwide have embraced the emerging technology of transoesophageal echocardiography (TEE) since its introduction to clinical practice almost twenty years ago. Cardiac anaesthetists who were there at its inception were given a fantastic tool, which literally switched on the floodlights and allowed proper visualisation of a game which had up to that point been played in relative darkness. The mysteries of weaning from bypass were solved in an instant and ventricular performance, volume loading, papillary muscle dysfunction and, that condition that had plagued cardiac anaesthetists everywhere, the left ventricular outflow tract obstruction in aortic stenosis and chronic hypertension, became clear and more easily managed during the weaning process. With time and experience, anaesthetists developed skills that they had never thought would be possible, such as the comprehensive assessment of the heart before and after bypass, assessment of left ventricular wall motion abnormalities and, that potential minefield, assessment of valvular structure and, particularly, function after repair.

The development of the anaesthetist as echocardiographer has progressed to the point that approximately 90% of all TEE examinations performed in the United Kingdom are done by anaesthetists. Although the figures for South Africa are not available, it would not be too much of a stretch to assume that this figure approaches 90% as well. In the light of this development, questions are beginning to be asked

about the training and accreditation of anaesthetists in echocardiography in South Africa. In a recent editorial in the SA Heart Journal, the following questions were asked by a cardiologist:²

1. Who should take responsibility for overseeing this expansion in echocardiography (to disciplines outside cardiology, the traditional home of the technology)?
2. How do we accommodate the training of individuals outside of cardiology who want to learn echocardiography?
3. How do we ensure quality control in all circumstances? What works best for one hospital may not be universally applicable.
4. Should accreditation be voluntary and, if not, should "grandfathering" be made provision for?

There is no current accreditation process in South Africa. Some brave souls have taken on the American National Board of Echocardiography exam and have become board certified. Most others have trained themselves in a progressive exposure to a series of courses and lectures, literature and on-the-job training. Indeed, we have been assisted on the journey by our cardiology colleagues in both the basic echo examination, as well as in advanced assessment of valves.

Anaesthetists stand on the cusp of a great change in the way that we use echocardiography in our practice. Cardiac anaesthetists will soon have real-time three-dimensional echo at their disposal to assess ventricular performance and loading conditions, as well as mitral valve anatomy and function, before and after repair.³ In non-cardiac surgery, perioperative echocardiography has been found to be useful and has influenced intraoperative anaesthetic decisions in many types of surgery, including vascular, endovascular, transplant,

obstetric, trauma and orthopaedic surgery.⁴ In future, anaesthetists will be exposed to echo in both the anatomical assessment of vascular access as well as in determining the anatomical relationships of neural structures to improve regional nerve blocks. The use of transthoracic echo (TTE) is gaining acceptance in the acute trauma setting, as a quick and easy test to assess heart function and to check the pericardium for effusion in the peri-arrest setting. This is another potential use of echo for anaesthetists. With improving technology and miniaturisation, will the anaesthetist be able to assess left ventricular function and heart valves at the bedside using TTE during the preoperative visit?

The opportunities are limitless. The question we should be asking ourselves is the following: Are we going to make use of these opportunities in an ordered, scholarly fashion, or are we going to allow the use of the technology to run riot? In order to initiate the debate, the following proposals are made:

1. The training of anaesthetists in echocardiography should be overseen by the South African Society of Anaesthesiologists, in conjunction with the South African Heart Association, to ensure that training is appropriate and that quality control is maintained.
2. A voluntary accreditation assessment should be developed through the College of Anaesthetists of South Africa and the South African Society of Anaesthesiologists for anaesthetists who wish to practise echocardiography.
3. Two levels of accreditation should exist: a basic level, incorporating the basic science of echocardiography and standard TTE and TEE examination, and an advanced level, which would include assessment of valve repair and the use of three-dimensional technology.
4. The debate should be initiated on the incorporation of the basic science of echo into Part I of the exam, and basic echo examination into Part II of the FCA.
5. There should be no grandfather clause, because the accreditation process must be (seen to be) fair and equitable.
6. The debate should be initiated on the timing or the introduction of a compulsory accreditation process, as well as the merits of a reaccreditation process.

The above proposals are intended to initiate and stimulate the debate on the use of echocardiography by anaesthetists. The time has come, twenty years into the use of a new technology, to self-regulate its use and to ensure proper initial training and ongoing learning. We owe it to ourselves, to our patients, to our

cardiological and surgical colleagues and, eventually, to the healthcare funders to answer the questions about anaesthetists' competence in the use of this technology, before those questions are asked of us.

The clue to the origin of the quote at the beginning of the editorial is in its somewhat old-fashioned English. It is an historic quote from the 1834 *London Times*, in which the author refers to the newly introduced stethoscope. Written in more up-to-date English, it might well refer to the somewhat newer technology of echocardiography. We ignore the lessons of history at our peril.

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