

Training and quality assurance for limited echo

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The use of ultrasound and echocardiography in perioperative and critical care environments has increased rapidly in the last few years. Most early users of ultrasound technology in anaesthesia, were the cardiac anaesthetists, who were required to perform diagnostic level examinations using transoesophageal echocardiography. This presented a major hurdle to the increased use of ultrasound, as the knowledge base and skill required to perform this level of examination precluded many non-cardiac anaesthetist or intensive care physicians from incorporating echocardiography into their practice.

Point of Care echocardiography is performed in real time by the treating clinician at the bedside. This used principally for real-time decision-making. It is by nature brief and focused, and designed to acquire enough information to make a decision, and then move on.

How then, should we train "the masses"? The first aspect, is to "turn the tables" on convention, and expect that limited knowledge base and skill level still provides more information than not doing echocardiography at all. Conventional thinking is that all echocardiography studies should be "full diagnostic studies" so that practitioners do not "miss anything". The extensive training and experience required makes this unrealistic approach for most practitioners. The opposite thinking is that focused transthoracic echocardiography studies can be performed with a minimal learning curve and limited knowledge base. As these practitioners grow in experience and confidence, then they can progress towards diagnostic skills over time. The second change in convention is to expect that knowledge base and practical skills can be taught separately, and that both are important.

Point of Care echocardiography is best taught by a combination of knowledge base and practical skills for a defined study. There are many such studies available such as FATE, BLEEP, FEEL, and HEARTscan. These are sufficient to get practitioners started using echocardiography, and courses should be tailored to provide enough knowledge base and enough hands-on the scanning time to enable people to develop sufficient confidence to start using the technology. Thereafter, practitioners need to practice as well as progressively increase their knowledge base.

The content will focus on how to teach limited TTE using the University of Melbourne **H.A.R.T.scan**® course and discuss the benefits and limitations of this approach (for details see www.heartweb.com.au). The best QA is to keep on learning, and options for further and more detailed study in echocardiography and ultrasound will be presented.