

New applications in cardiac anaesthesiology: portable technology improves echocardiography reporting

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Traditionally, transthoracic echocardiography (TTE) has been considered prerogative of cardiologists, whereas we have seen a large diffusion of this technique well beyond the cardiac field in the last decade. In particular, echocardiography has become crucially important in the bag of tricks of the intensive care physician and the cardiac anaesthesiologist [1].

TTE, a well-acknowledged diagnostic technique, is available bedside since many years, and miniaturizing technology and the introduction of portable machines have significantly improved over the years, with smaller and easier-to-use devices supporting the echo users.

Transoesophageal echocardiography (TEE) is mostly applied in the operating theatres to help cardiac surgeons during their operations or in the emergency room for the diagnosis of cardiac or vascular abnormalities difficult to see on TTE.

What emerges from an informal survey over the Internet among intensive care physicians and anaesthesiologists is that there is lack of attitude to reporting the examination, mostly because the majority of the examinations are carried out in a hurry. Sometimes, this defect might be related to an educational issue.

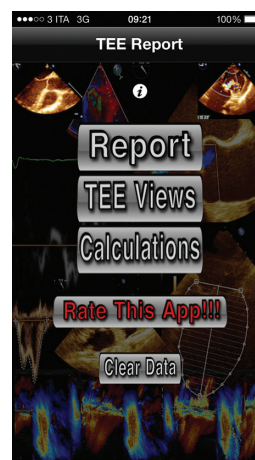
To overcome this issue, ultrasound machines usually provide built-in software for echo reporting. However, such tools are mainly thought for comprehensive and specialist examination, mainly in the setting of elective patient evaluation.

Having portable device technology widespread; as intensivists and cardiac anaesthesiologists, we thought it might be very useful to support our echocardiography examinations by having a friendly tool to report the echo exam even in the emergency or intraoperative scenario, where time-consuming systems are not welcome.

Two applications [2] for iOS platform (Apple Inc., Cupertino, California, US) have been designed and built by cardiac anaesthesiologists working in the field based on the last guidelines and recommendations (Fig. 1) [3].

The examiner is facilitated in the process by scrolling over multiple-choice pages to construct a comprehensive report.

Figure 1



Screenshot of the application transoesophageal echocardiography (TEE) report start menu.

It is possible to store data and also generate PDF documents to be saved, printed, or sent through email immediately at the end of the exam.

An educational section showing conventional views and calculation is also implemented.

We believe that our applications could be instrumental to our practice; moreover, in our opinion, it should be considered a valid aid even for cardiologists or other healthcare providers involved in TEE reporting.

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Conflicts of interest

The authors projected and published TEE Report and TTE Report on the iTunes Store, Pietro Bertini stands to benefit financially.

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