

# Echocardiography training for the intensive care unit in Europe

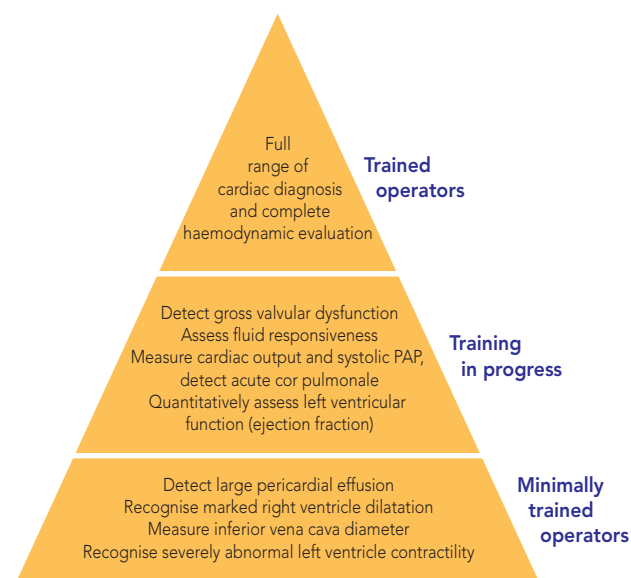
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The position of many experts of the European Society of Intensive Care Medicine is that every critical care team should be organised in a “pyramid” with respect to echocardiography skills (Figure 1). At the top of the pyramid, each intensive care unit should have at least one fully trained operator, who can field any question about interpretation of an echocardiogram.<sup>1</sup> These operators should be able to accomplish at least all the tasks shown in the pyramid. However, they are not intended to substitute for the cardiologist: the critical care echocardiography practice does not provide expertise on specific cardiac issues, such as detailed valvular analysis and stress echocardiography. On the other hand, haemodynamic assessment and description of ventricular function are part of routine examinations in the ICU. These trained operators should also control and validate echocardiography studies performed by less experienced colleagues.

At the base of the pyramid are the physicians who lack specific, formal echocardiography training outside the ICU. All should be able to perform basic ultrasound examinations (bidimensional transthoracic echocardiography and video recording), and all should be trained to recognise the severely hypokinetic left ventricle, right ventricular dilatation, a collapsed or dilated inferior vena cava, and pericardial effusion. This can be achieved by studying a selection of typical echocardiogram recordings. In the middle of the pyramid are the physicians who are currently undertaking formal echocardiography training, but have not yet obtained certification.

In France, a specific echocardiography course for intensivists and anaesthetists has recently been added to the classic cardiological echocardiography training, focusing on issues related to haemodynamic assessment in critically ill patients undergoing mechanical ventilation. This adaptation to the practice of echocardiography in the critical care environment should help to create a “critical mass” of trained operators to disseminate the use of echocardiography in every ICU in the near future.

**Figure 1. The “pyramid” of echocardiography skills in the intensive care unit**



At the top of the pyramid are trained operators who have gone through formal training and board certification. They are in charge of teaching all other ICU physicians, especially those who are minimally trained, to obtain “vital” information (base of the pyramid).

In the middle tier are physicians who are training for certification in echocardiography, who are usually able to acquire additional relevant information using this technique.

Key: PAP = pulmonary artery pressure.

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## References

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