



SPECIAL ARTICLE

Consensus document on ultrasound training in Intensive Care Medicine. Care process, use of the technique and acquisition of professional skills[☆]

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Abstract Ultrasound has become an essential tool in assisting critically ill patients. Its knowledge, use and instruction require a statement by scientific societies involved in its development and implementation.

Our aim is to determine the use of the technique in intensive care medicine, clinical situations where its application is recommended, levels of knowledge, associated responsibility and learning process also implement the ultrasound technique as a common tool in all intensive care units, similar to the rest of European countries.

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The SEMICYUC's Working Group Cardiac Intensive Care and CPR establishes after literature review and scientific evidence, a consensus document which sets out the requirements for accreditation in ultrasound applied to the critically ill patient and how to acquire the necessary skills.

Training and learning module requires a structured process within the specialty. The SEMICYUC must agree to disclose this document, build relationships with other scientific societies and give legal cover through accreditation of the training units, training courses and different levels of training.

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PALABRAS CLAVE

Ultrasonidos;
Ecografía;
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Documento de consenso para la formación en ecografía en Medicina Intensiva. Proceso asistencial, uso de la técnica y adquisición de competencias profesionales

Resumen La ecografía se ha convertido en un instrumento imprescindible en la asistencia a los pacientes críticos. Su conocimiento, uso e instrucción requiere un posicionamiento por parte de las sociedades científicas implicadas en su desarrollo y aplicación.

Nuestros objetivos son determinar el uso de la técnica dentro de Medicina Intensiva, las situaciones clínicas donde su aplicación es recomendable, los niveles de conocimiento, la responsabilidad asociada y el proceso de aprendizaje, así como convertir la técnica ecográfica en una herramienta de uso habitual en todas las unidades de cuidados intensivos, en concordancia con el ámbito europeo que nos rodea, para su integración y homologación.

El Grupo de Trabajo de Cuidados Intensivos Cardiológicos y RCP de la SEMICYUC establece, tras revisión bibliográfica y evidencia científica, un documento de consenso donde se establecen los requisitos necesarios para la acreditación en ecografía aplicada al paciente crítico y adquirir las competencias necesarias.

El aprendizaje exige un proceso estructurado dentro de la especialidad. La SEMICYUC debe comprometerse a divulgar este documento, establecer relaciones con otras sociedades científicas y dar cobertura legal mediante acreditación de las unidades formativas, cursos y niveles de capacitación.

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Introduction

Ultrasound (US) is a noninvasive technique that offers an image of body organs and vessels for diagnostic and/or therapeutic purposes. It presents limitations depending on the indication, the technical capacity of the operator, the quality of the data obtained, and the decisions made.

The actions taken as a result of poor interpretation of the exploration can have adverse consequences for the patient. Likewise, failure to use the technique for diagnoses or invasive procedures may imply an unnecessary risk for the patient that can have legal consequences for the physician. Use of the technique implies adequate training.

Critical patients generally present a series of clinical particularities in which morphological and functional ultrasound evaluation proves essential due to its noninvasiveness, reliability, validity and applicability at the patient bedside (Table 1). There is extensive literature supporting the use of the technique in critically ill patients.¹⁻⁵

The Spanish Society of Intensive and Critical Care Medicine and Coronary Units (*Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias*, SEMICYUC) has the responsibility, duty and obligation to ensure that the procedures used in critical patients are carried out safely and correctly as regards their indication, quality and the technical knowledge of the operators, based on the implementation of an accredited training program.

In this context, the SEMICYUC should promote the use of ultrasound, facilitating its adoption as a routine tool, as well as correct training in the technique, with a view to ensuring that most Units have access to these procedures and that critical patients are treated and monitored effectively, adequately and safely. However, no widely recognized guidelines have been established to date, and only a few isolated national initiatives have developed rules for training in ultrasound among non-cardiologists who perform explorations in different settings,⁶⁻⁹ and particularly in Intensive Care.⁹

Of the possible clinical situations in which echocardiography may be indicated¹⁰ (about 200), over 50% are found in the Emergency Care area and in Intensive Care Units (ICUs).

Table 1 Advantages of ultrasound in critical patients.

Performance of the technique at the patient bedside
No need for patient transfer
Noninvasive (TTE) or semi-invasive (TEE)
No need for contrast media or radiations
Immediate image analysis
Rapid, repetitive, reliable and validated information
High image definition thanks to technological advances
Possibility of recording and reviewing the images

TEE: transesophageal echocardiography; TTE: transthoracic echocardiography.

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