

JOINT EVENT ON

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**Algorithms of respiratory failure and shock guided by ultrasound in critical units****Raul Vicho Pereira**

Spanish Society of Ultrasound in Criticis - ECOCRITIC

**Introduction:** Doppler echocardiography (TEE) and pulmonary ultrasonography (PE) have become basic tools with the highest level of recommendation in the patient in shock and in the patient with respiratory insufficiency. However, there is no algorithm with a high level of sensitivity and specificity for the differential diagnosis of both in critical areas. The BLUE, FATE and FALLS protocols are very focused on initial diagnosis in emergency areas.

**Method:** We propose, from ECOCRITIC, algorithms for the management of shock and dyspnoea by performing ETT and EP. In order to study the patient in shock, 5 Doppler echocardiography chambers with evaluation of mitral E wave and Tissue Wave (to assess left ventricular preload), v. systolic in left ventricular outflow tract, maximum valve velocity Aortic, indirect calculus of peripheral resistences, left and right contractility, discard pericardial dermis, discard pleural effusion by exploring axillary windows and pneumothorax by pulmonary ultrasound. For the respiratory insufficiency, the left ventricular preload is also measured in 5 ETT chambers, the axillary windows to rule out atelectasis / pleural effusion and to evaluate the diaphragmatic excursion (ED), the distribution in both hemitorax of the existing pulmonary pattern along the aspect of the anterior pleural line.

**Conclusion:** These algorithms allow to diagnose and guide in the treatment of the causes of the 2 most important syndromes in the critical units: shock and respiratory failure.

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