ERS statement on chest imaging in acute respiratory failure

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A variety of chest imaging techniques are now available for assessing patients with acute respiratory failure. This statement highlights characteristics, clinical indications and limitations of each technique as a guide for patient management. http://bit.ly/2XxYOd7


This single-page version can be shared freely online.

ABSTRACT
Chest imaging in patients with acute respiratory failure plays an important role in diagnosing, monitoring and assessing the underlying disease. The available modalities range from plain chest X-ray to computed tomography, lung ultrasound, electrical impedance tomography and positron emission tomography. Surprisingly, there are presently no clear-cut recommendations for critical care physicians regarding indications for and limitations of these different techniques.

The purpose of the present European Respiratory Society (ERS) statement is to provide physicians with a comprehensive clinical review of chest imaging techniques for the assessment of patients with acute respiratory failure, based on the scientific evidence as identified by systematic searches. For each of these imaging techniques, the panel evaluated the following items: possible indications, technical aspects, qualitative and quantitative analysis of lung morphology and the potential interplay with mechanical ventilation. A systematic search of the literature was performed from inception to September 2018. A first
search provided 1833 references. After evaluating the full text and discussion among the committee, 135 references were used to prepare the current statement.

These chest imaging techniques allow a better assessment and understanding of the pathogenesis and pathophysiology of patients with acute respiratory failure, but have different indications and can provide additional information to each other.