

## An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome

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THIS OFFICIAL CLINICAL PRACTICE GUIDELINE OF THE AMERICAN THORACIC SOCIETY (ATS), EUROPEAN SOCIETY OF INTENSIVE CARE MEDICINE (ESICM), AND SOCIETY OF CRITICAL CARE MEDICINE (SCCM) WAS APPROVED BY THE ATS, ESICM, AND SCCM, MARCH 2017

**Background:** This document provides evidence-based clinical practice guidelines on the use of mechanical ventilation in adult patients with acute respiratory distress syndrome (ARDS).

**Methods:** A multidisciplinary panel conducted systematic reviews and metaanalyses of the relevant research and applied Grading of Recommendations, Assessment, Development, and Evaluation methodology for clinical recommendations.

**Results:** For all patients with ARDS, the recommendation is strong for mechanical ventilation using lower tidal volumes (4–8 ml/kg predicted body weight) and lower inspiratory pressures (plateau pressure < 30 cm H<sub>2</sub>O) (moderate confidence in effect estimates). For patients with severe ARDS, the recommendation is strong for prone positioning for more

than 12 h/d (moderate confidence in effect estimates). For patients with moderate or severe ARDS, the recommendation is strong against routine use of high-frequency oscillatory ventilation (high confidence in effect estimates) and conditional for higher positive end-expiratory pressure (moderate confidence in effect estimates) and recruitment maneuvers (low confidence in effect estimates). Additional evidence is necessary to make a definitive recommendation for or against the use of extracorporeal membrane oxygenation in patients with severe ARDS.

**Conclusions:** The panel formulated and provided the rationale for recommendations on selected ventilatory interventions for adult patients with ARDS. Clinicians managing patients with ARDS should personalize decisions for their patients, particularly regarding the conditional recommendations in this guideline.

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