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Recruitment maneuvers in acute respiratory distress syndrome: The safe way is the best way

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Abstract

Acute respiratory distress syndrome (ARDS) represents a serious problem in critically ill patients and is associated with in-hospital mortality rates of 33-52%. Recruitment maneuvers (RM)s are a simple, low-cost, feasible intervention that can be performed at the bedside in patients with ARDS. RMs are characterized by the application of airway pressure to increase transpulmonary pressure transiently. Once non-aerated lung units are reopened, improvements are observed in respiratory system mechanics, alveolar re-aeration on computed tomography, and improvements in gas exchange (functional recruitment). However, the reopening process could lead to vascular compression, which can be associated with overinflation, and gas exchange may not improve as expected (anatomical recruitment). The purpose of this review was to discuss the effects of different RM strategies – sustained inflation, intermittent sighs, and stepwise increases of PEEP and/or airway inspiratory pressure – on the following parameters: hemodynamics, oxygenation, barotrauma episodes, and lung recruitability through physiological variables and imaging techniques. RMs and PEEP titration are interdependent events for the success of ventilatory management. PEEP should be adjusted on the basis of respiratory system mechanics and oxygenation. Recent systematic reviews and meta-

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