

Lung Recruitment in ALI/ARDS

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Definition of ARDS

ARDS: inflammatory lung injury with alveolar flooding and abnormalities in surfactant function

collapse of peripheral lung units, pulmonary infiltrates, stiff lungs, and hypoxemia.

1. Acute onset (less than 7 days)
2. $\text{PaO}_2/\text{FiO}_2 < 300 \text{ mmHg}$
3. Diffuse bilateral pulmonary infiltration
4. Absence of left atrial hypertension or pulmonary artery occlusion pressure $\leq 18 \text{ mmHg}$

Overview of treatment of ARDS

- Treatment for the causes

- Mechanical ventilation

- Supportive care

- Fluid management

- Medication

- ECMO

Types of lung injury associated with the application of mechanical ventilation

Oxygen toxicity

Ventilator induced lung injury

Volutrauma : Regional alveolar overdistension

Atelectrauma: shearing from cyclic open and close alveoli

Barotrauma : extra alveolar air leak from high Paw ventilation

Biotrauma : inflammatory cytokine release from injured alveoli

