

# Lung Recruitment in ALI/ARDS

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# Definition of ARDS

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**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.  $\text{PaO}_2/\text{FiO}_2 < 300$  mmHg
3. Diffuse bilateral pulmonary infiltration
4. Absence of left atrial hypertension or pulmonary artery occlusion pressure  $\leq 18$  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

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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  $P_{aw}$  ventilation

**Biotrauma** : inflammatory cytokine release from injured alveoli

