

Acute Respiratory Distress Syndrome (ARDS)



Definition: Clinical syndrome of rapid-onset dyspnea and hypoxemia characterized by diffuse alveolar damage (DAD). Multiple etiologies; suspect in patients with new oxygen needs



Risk Factors: Older age, chronic alcohol use, metabolic acidosis, pancreatitis, severity of associated illness

Causes

- Pneumonia
- Gastric acid aspiration
- Pulmonary contusion
- Toxin inhalation
- Near-drowning



Direct Lung Injury

- Sepsis
- Severe trauma
- Pancreatitis
- Drug overdose
- Burns



Indirect Lung Injury

Diagnosis

Chest X-ray: Bilateral opacities
BNP: Normal
Echo: Normal, unless other heart pathology present



Notable Diagnostic Tests

PaO₂/FiO₂ ratio:
Mild: >200-300
Moderate: >100-200
Severe: 100 or less



Severity

Phases


Exudative: Day 1-7
 DAD from alveolar edema, neutrophil-rich infiltration, hyaline membrane formation

Proliferative: Day 7-21
 Interstitial inflammation, early fibrotic changes

Fibrotic: Day 21+
 Major fibrosis, bullae, only in some patients

Rule Out

 Cardiogenic Pulmonary Edema

Alveolar Hemorrhage 

 Bilateral Pneumonia

Treatment

Ventilator Support:
Tidal Volume: 6 mL/kg predicted body weight
PEEP: Titrate to optimize PaO₂ and minimize FiO₂

Fluids: Limit to avoid pulmonary edema

Treat underlying condition!