



# ARDS: CRITERIA & CAUSES

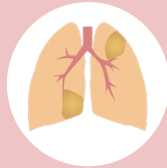


## Causes of lung injury

### DIRECT (PULMONARY)



Inhalation harmful substance, near drowning, aspiration

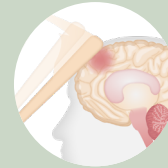


Severe pneumonia

### INDIRECT (EXTRAPULMONARY)



Sepsis (top cause)



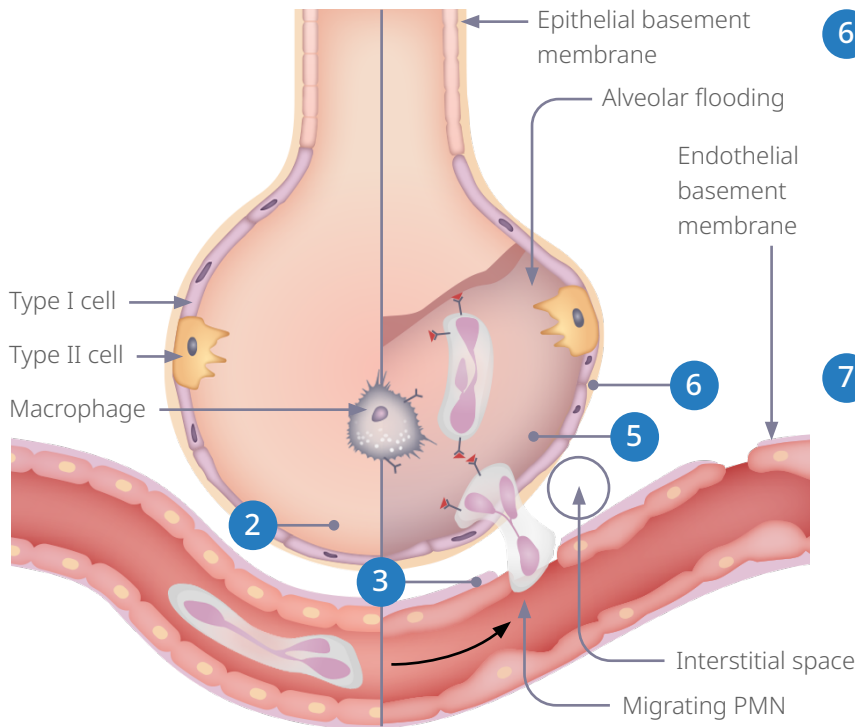
Head, chest, other major injuries



Other: pancreatitis, burns, massive blood transfusion

## Physiology: state of uncontrolled inflammatory response

- 1 Injury to the lungs
- 2 Release of cytokines, either by alveolar macrophages (direct) or into blood (indirect)
- 3 PMNs in blood migrate into alveoli and release more cytokines
- 4 Pulmonary shunting occurs
- 5 Fluid shifts into alveoli d/t lymph system overload (pulmonary shunting)



- 6 Damage to pneumocytes, inadequate surfactant, ↓ lung compliance  
↓  
Poor O<sub>2</sub>/CO<sub>2</sub> gas exchange
- 7 Acute respiratory failure

## Assessment

PaO<sub>2</sub>/FiO<sub>2</sub> can be used to determine level of impairment to move O<sub>2</sub> into arteries.

