

Pulmonary air leak syndrome (PALS) in Mechanical ventilation

Indications for mechanical ventilation

- Respiratory failure
- To decrease or support work of breathing
- To improve oxygenation
- To recruit the lung
- To support other organs e.g.: increased ICP, CHF

Incidence of PALS

- Incidence in Thailand – unknown
- Incidence by type - unclear
- Pneumothorax in Mechanical ventilation
 - 4-5% in general case
 - 30-87% in ARDS (10-15 times)
 - Also high in NB and prematurity

Factors influenced PALS

- **Diseases affected lung mechanics**
 - Decreased Lung compliance : ARDS
 - Increased Lung resistance : asthma
 - Unilateral lung disease
- **Inappropriate setting**
 - Over-ventilation
 - Patient-ventilator asynchrony
- **Disease affected lung pathology**
 - Pneumatocole
 - Lung bleb, Cystic lesions

Mechanism of lung injury by mechanical ventilation

- Barotrauma
- Volutrauma
- Atelectrauma
- Biotrauma