

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