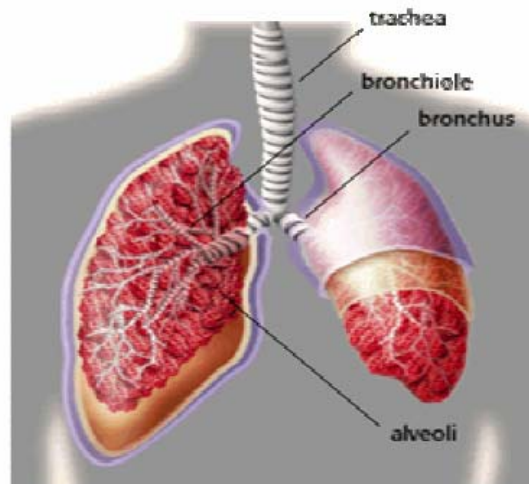


Respiratory Condition Responsive to CPAP

Structure of Human Lungs



- **Acute Respiratory Failure and Acute Lung Injury**
CPAP may increase PaCO₂ and relieve tachypnoea in patients with moderate respiratory failure.
- **Pulmonary Contusion and Flail Chest**
Lung contusion and rib fractures are associated with alveolar collapse and chest wall instability. Mask CPAP assists to restore lung volume and stabilises respiratory mechanics, improving oxygenation and ventilation.
- **Cardiogenic Pulmonary Oedema**
CPAP in cardiogenic pulmonary oedema increases lung volume improves oxygenation and reduces the work of breathing. Positive airway pressure also reduces venous return, decreasing ventricular filling pressures and improving cardiac performance.
Water is redistributed from flooded alveoli back into the pulmonary capillaries and then the systematic circulation. The movement of water from the pulmonary capillaries back into the alveoli is also reduced.
- **Post Operative Atelectasis**
CPAP assists to re expand (recruit) collapsed alveoli and improve hypoxaemia and FRC in patients with basal lung collapse.
CPAP in this patient group has the benefit of not requiring patient cooperation to increase lung volume.

- **Chronic Obstructive Pulmonary Disease**

The air trapping in COPD is attributed to small airway collapse prior to complete alveolar emptying. The patient will often purse lip breathe in an attempt to maintain airway pressure above the pressure which causes airway collapse. Some patients may respond to CPAP at low levels (PEEP<8cmH₂O) however if this does not improve their condition consider using NIPPV (Bipap or equivalent)