Clinical Practice Procedures:
Respiratory/Positive end expiratory pressure

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Date: April, 2016
Purpose: To ensure a consistent procedural approach for Positive end expiratory pressure.
Scope: Applies to all QAS clinical staff.
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Review date: April, 2018
URL: https://ambulance.qld.gov.au/clinical.html

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**Positive end expiratory pressure (PEEP)** is the application of a fixed pressure at the end of expiration. PEEP raises the functional residual pressure and capacity above the level at which alveolar closure occurs.\(^1\)

The goal of PEEP is to:
- minimise alveolar collapse and improve oxygenation
- reduce gas trapping (increase compliance)
- decrease the workload of breathing
- maintain ventilation/perfusion (V/Q) matching

The Mayo Healthcare disposable PEEP valve is designed for use with the Mayo Healthcare disposable manual resuscitator to introduce PEEP between 5 – 20 cmH\(_2\)O.

### Indications

- Pulmonary oedema (cardiogenic and non-cardiogenic)
- Asthma and COPD patients (with SpO\(_2\) < 96% on a FiO\(_2\) > 65%)
- Profound hypoxaemia associated with:
  - flail segment(s)
  - pulmonary contusion(s)
  - aspiration
  - haemorrhage

### Contraindications

- **Absolute:**
  - Hypotension (SBP < 90 mmHg)
- **Relative:**
  - Pneumothorax
  - Uni-lateral lung disease
  - Broncho-pleural fistula
  - Hypovolaemia

### Complications

- Caution should be used in asthma and those with obstructive lung disease due to increased risk of air trapping and causing a pneumothorax.\(^2\)
- Hypotension
Procedure – Positive end expiratory pressure

PEEP valve assembly and use

1. Turn the adjustment knob counter clockwise until tension is felt (5 cmH2O).
2. Attach PEEP valve onto the BVM expiratory flow diverter.
3. Commence positive pressure ventilation.
4. Continuously monitor SpO2, BP, EtCO2 and other vital signs.

Additional information

- Do not increase PEEP above 5 cmH2O in patients with asthma or obstructive lung disease.
- PEEP may be increased to 10 cmH2O in acute pulmonary oedema if after 10 minutes oxygen saturations do not increase above 90%.\[^3\]