PEEP valves

Positive End-Expiratory Pressure
Recruitment and Oxygenation
Mechanically ventilated patients usually receive positive end-expiratory pressure (PEEP), to overcome the loss of physiological PEEP provided by the larynx and vocal cords.

- PEEP is delivered throughout the respiratory cycle and is synonymous to CPAP, but in the intubated patient.

- Standard PEEP setting is 5 cm H₂O.
Applications

- Pre-oxygenation
  - NoDESAT
  - RSI
  - DSI
- BVM
- Intubated patients
Physiology of PEEP

- Re inflates collapsed alveoli and maintains alveolar inflation during exhalation

  PEEP
  Decreases alveolar distending pressure
  Increases FRC by alveolar recruitment
  Improves ventilation
  Increases V/Q, improves oxygenation, decreases work of breathing, Recruit lung
Advantages

1. Recruits & stabilizes the collapsed alveoli
2. Increases the FRC & prevents expiratory collapse
3. Improves oxygenation in conditions associated with diffuse alveolar collapse & hypoxemia
4. Used to decrease inspiratory work of breathing
5. Decreases lung injury chances by maintaining minimum lung volume (minimizes shear forces associated with repetitive collapse & recruitment of injured alveoli)
Disadvantages

1. Can impair cardiac output
2. Increases risk of barotrauma esp, >15 cm H2O
3. Increases intracranial pressure
4. Decreases renal & portal blood flow
5. Can complicate data collection in pts of RHF
6. Increases extra vascular lung water
7. Increases dead space if excessive
8. May increase inspiratory work of breathing if over distention occurs