

PEEP

PEEP is part of the ventilation mode. Expresses positive pressure in the respiratory tract (pressure higher than atmospheric) at the end of *exhalation* (expirial). The abbreviation stands for positive end expiratory pressure,

The aim of its use is to increase the volume of gas that remains in the lungs at the end of exhalation, thereby **improving gas exchange in the lungs**, loosening atelectasis and increasing tidal volumes. **Effects of including PEEP in the circuit:**

- *Influence of the size of functional residual lung capacity* – prevention of compression atelectasis, prevention of re-collapse of developed alveoli.
- *Influencing the distribution of ventilation and perfusion* – improving the evenness of the flow and distribution of the breathing mixture, increasing blood flow and reducing vascular resistance in the lung tissue.
- *Influencing the work of breathing* – facilitating inhalation and reducing the work of breathing.
- *Influence of the circulation* – in the case of left ventricular failure, it supports oxygenation and reduces oxygen consumption by the myocardium, increases cardiac output → reduces venous return, afterload. In patients without heart failure, it reduces venous return → PEEP increases intrathoracic pressure.
- *Increases intra-abdominal pressure.*



PEEP valve

Indications: severe forms of COPD requiring ventilatory support, ARDS, pulmonary edema, shock lung

Distribution of PEEP:

- Low PEEP → up to 5 cm H₂O; used in patients without lung pathology and during short-term ventilation.
- Moderate PEEP → 5–10 cm H₂O; used in most patients.
- High PEEP → above 15 cm H₂O; indicated in patients with acute pulmonary failure.
 - PEEP above 30 cm H₂O is used for the so-called opening maneuver.

PEEP values of 4–8 cm H₂O are commonly used. Higher PEEP values of 8–15 cm H₂O are used to prevent lung damage due to repeated openings and collapses of lung alveoli. ^[1]

- **Intrinsic PEEP** – also called auto PEEP, internal PEEP.
 - An essential part of monitoring in patients with pulmonary disease → extent of hyperinflation.
 - Method of measurement according to the patient's respiratory activity.

Links

related articles

- COPD
- Lung volumes
- Artificial lung ventilation
- Artificial pulmonary ventilation/SŠ (nurse)
- Non-invasive pulmonary ventilation/SŠ (nurse)

References

- HECK, – HESENIUS,. *Repetitorium Intensivmedizin*. 3. edition. 2008. ISBN 978-3-540-72279-3.
- DOSTÁL, Pavel. *Fundamentals of artificial lung ventilation*. 2., expanded edition. Praha : Maxdorf Jessenius, 2005. ISBN 80-7345-059-3.

Reference

1. KASAL, Eduard. *Basics of anesthesiology, resuscitation, emergency medicine and intensive care for medical schools*. 51. edition. Praha : Karolinum, 2006. ISBN 80-246-0556-2.

