

Understanding abbreviations used in mechanical ventilation

Mode

The “mode” in mechanical ventilation describes how the ventilator controls pressure, volume, and flow for each breath, along with a description of how the “breaths” are sequenced.

SIMV – Synchronized Intermittent Mandatory Ventilation

AC – Assist Control

SPONT – Spontaneous

Breath Type

VC – Volume Control

PC – Pressure Control

VC+ - Volume Control Plus

PS – Pressure Support

CPAP – Continuous positive airway pressure

- Constant pressure maintained at the airway opening throughout the breathing cycle. CPAP refers to PEEP during spontaneous breathing.

PEEP – Positive end expiratory pressure

- Positive pressure is held in the lungs during the exhalation phase of a mechanical breath.

FIO₂ – Fraction of inspired oxygen

- The percentage of oxygen delivered (21% - 100%)

PIP – Peak inspiratory pressure

- Pressure recorded at end inspiration. Dependent on volume or pressure delivered and airway resistance.

RR – Respiratory rate

- Number of preset mechanical breaths the patient will receive per minute.

VT – Tidal volume

- The volume of gas inhaled or exhaled during a breath.

VE – Minute ventilation

- The average volume of gas entering or leaving the lungs per minute. Calculated by tidal volume x respiratory rate ($VE = VT \times RR$).

P_{plat} – Plateau pressure

- The static transalveolar pressure at end at end inspiration during an inspiratory hold for an assisted breath.

I-Time – Inspiratory Time

- The period from the start of inspiratory flow to the start of expiratory flow.

E-Time – Expiratory flow

- The period from the start of expiratory flow to the start of inspiratory flow.

I:E Ratio – Inspiration to expiration ratio

- Time constant determined by total respiratory rate and inspiratory time.

Weaning Parameters – Negative Inspiratory Force

- Pressure the diaphragm can create on inspiration
- Value needs to be >25cmH₂O to be considered for extubation.

RSBI – Rapid Shallow Breathing Index

- RR/V_t
- Values less than 100-105 should be considered for extubation

FVC – Forced Vital Capacity

- Amount of air able to be exhaled after a full inhale/exhale.
- Value needs to be 2-3 times resting V_t to be considered for extubation