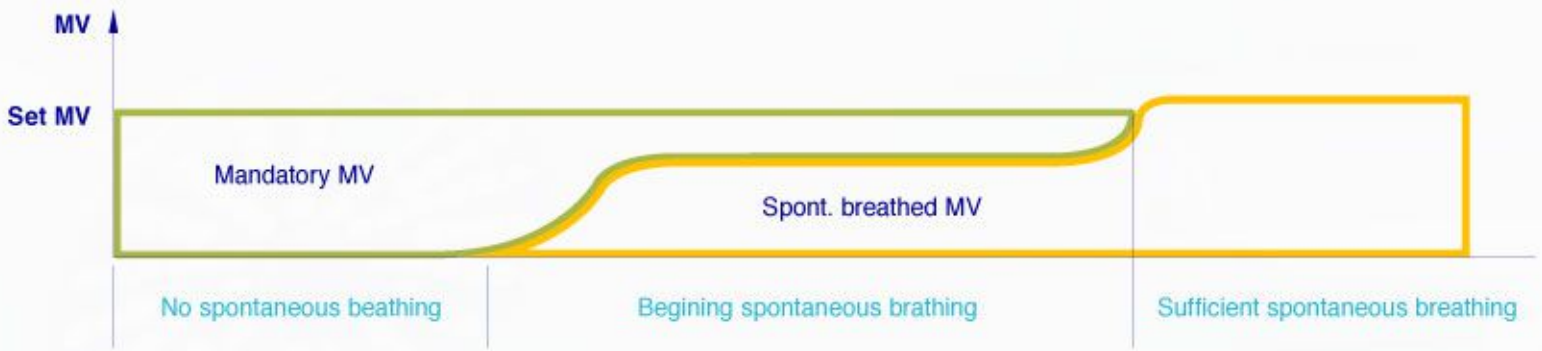
DID YOU KNOW?

Mandatory Minute Ventilation - MMV

What is it?

MMV it's a Volume-controlled ventilation to ensure mandatory minute ventilation

MMV works similar to SIMV, however, the mandatory breaths are only provided if spontaneous breathing is not sufficient and below the prescribed minimum ventilation. Should spontaneous breathing increase, fewer mandatory breaths will be provided. The minimum ventilation is determined by the setting of the tidal volume VT and the respiratory rate RR.



When should MMV be applied?

- Uncomplicated cases of respiratory failure (i.e. following resolution of drug induced coma)
- Post operative period; emerging from anesthesia
- Bedside procedures requiring sedation and/or NMBAs
- Recovered, acute pulmonary process
- No intrinsic lung disease or resolved lung disease

Why is it helpful to improve outcome?

VC-MMV is improving outcomes being:

- Supportive: with full syncronization with the patient, allowing spontaneous breath with a "safety net"(1), speeding up weaning, saving up to one day in the ICU(3)

- Automatic: switching from full to partial ventilation support with no intervention(2), freeing clinicians for other patient care activities(2,4), allowing "automatic weaning"(2)

- Safe: with stable tidal and minute volume, preventing hypoventilation

References:
1. Guthrie SO, et al. A crossover analysis of mandatory minute ventilation compared to synchronized intermittent mandatory ventilation in neonates. J Perinatol. 2005;25(10):643-6.
2. Burns KE, et al. Automating the weaning process with advanced closed-loop systems. Intensive Care Med. 2008;34(10):1757-65.
3. Davis S, et al. Mandatory minute volume weaning in patients with pulmonary pathology. Anaesth Intensive Care. 1989 ;17(2):170-4.
4. Sulzer CF, et al. Adaptive support ventilation for fast tracheal extubation after cardiac surgery: a randomized controlled study. Anesthesiology. 2001;95(6):1339-45.