

Issued: 4/13/20

Managing Ventilation: COVID-19 Clinical Practice Guideline

- Follow ARDSnet ventilation card where possible
- Tidal volumes should be 4-6 ml/kg using IBW to minimize volumes (and thus ventilator injury)
- Minute ventilation (respiratory rate x tidal volume) typically drives pH and PCO₂:
 - Titrate ventilatory parameters to pH, not PCO₂
 - To achieve low tidal volumes, we tolerate hypercapnia (functionally no limitation unless clinical sequelae) and acidemia (pH > 7.2).
 - Because tidal volumes are low, the respiratory rate often has to be high to accommodate; typical RR is 20-35 breaths/minute.
- pH goal is normally 7.25-7.45:
 - If pH > 7.45, decrease respiratory rate
 - If pH 7.15-7.30, then increase respiratory rate until pH > 7.30, or PaCO₂ < 25 (maximum RR= 35 breaths/minute)
 - If pH < 7.15, then increase respiratory rate to 35 breaths/minute
 - If pH still < 7.15, then perform the following:
 - Tidal volume may be increased by 1 mL/kg until pH > 7.15 (until plateau pressure reaches 30 cm H₂O or tidal volume reaches 8 ml/kg)
 - Deep sedation advancing to RASS -5 if needed
 - If no improvement, initiate continuous paralysis
 - If still no improvement, initiate prone ventilation (may improve V/Q matching and better ventilation)

Author: Dr. Bamba