

Post Op Open Heart Orders for Respiratory Ventilator Care & Weaning

INITIATE VENTILATOR SET UP:

- On arrival place patient on APV/SIMV Mode. Initiate Pulse Oximetry and Capnography
- Initial Tidal Volume is 6-8 milliliters per kilogram of Ideal Body Weight (IBW), to maintain Plateau Pressure goals between 25-30cmH₂O
- Initial Ventilator Rate is 8-12 Breaths per minute until the patient demonstrates the capability of spontaneous respirations
- FiO₂ – 100% initially, Weaning FiO₂ to 40% in 10-15 minute increments, while monitoring the Pulse Oximeter & the ETCO₂ Auto-wean FiO₂ to maintain SaO₂ > 93%
- PEEP up to 5cmH₂O is Systolic Blood Pressure is > 80mmHg
- Set initial PS to 10cmH₂O

CRITERIA for WEANING

Ventilator Weaning occurs when patient is stable. Collaboration should occur between the Respiratory & Nursing Staff Prior to extubation. Specific criteria to evaluate include:

- Adequate blood pressure
- Absence of significant cardiac arrhythmias
- Minimal use of narcotics for pain control
- Minimal use of sedation
- ABG Analysis:
 - pH 7.30 – 7.47
 - PaCO₂ 35 – 50mmHg
 - Pa O₂ > 80mmHg
 - Sa O₂ > 93%
 - ETCO₂ < 45mmHg
- If at any time the ETCO₂, trend is in question, obtain an ABG

INSTRUCTIONS:

- A. Continue to wean FiO₂ to maintain oxygen saturation > 93%
- B. Begin to wean ventilator rate by 2 breaths every 30 minutes, as tolerated when spontaneous respiratory efforts of patient begin & spontaneous tidal volumes are > 300 milliliters. May wean more rapidly if patient is doing well observe patient for any intolerance to weaning.
- C. PS 8-10cmH₂O can be utilized to overcome resistance of the ET Tube
- D. Ultimate goal: CPAP 5/PS 5 for 20-40 minutes. Complete weaning parameters & extubate
- E. Obtain an ABG, near the end of the CPAP Trial
- F. When the patient is able to follow commands & can raise head off the bed, evaluate the readiness for extubation by following the Respiratory Weaning Parameters.

REPIRATORY WEANING PARAMETERS:

- NIF better than -20cmH₂O
- Spontaneous tidal volume > 5mL/kg IBW
- Spontaneous respiratory rate < 25 breaths per minute

- Spontaneous minute volume < 10 L per minute
- Vital capacity > 10mL/kg IBW
- RSBI < 90 (Respiratory Rate / Tidal Volume)

CPAP TRIAL ABG CRITERIA:

- pH > 7.30
- PaCO₂ < 50mmHg (Unless patient baseline value is higher)
- PaO₂ > 60mmHg on 40% FiO₂
- No other signs of weaning intolerance

PARAMETERS MET:

- g. Extubate the patient
- h. Place on 50% cool aerosol face mask
- i. Wean FiO₂ to maintain oxygen saturation > 93%
- j. Initiate an Incentive Spirometer &/or Other Respiratory Services per the Respiratory Care Plan –
 - Begin Inspiraex Protocol every 1-2 hours after extubation
 - Instruct patient, Incentive Spirometry every hour x 10 while awake from 0600 until 2300
 - Wean oxygen to keep saturation > 92%

PARAMETERS NOT MET:

- Respiratory rate > 35 breaths per minute for > 5 minutes
- Oxygen saturation < 90%
- Heart rate > 140 beats/minute
- Sustained increase or decrease in heart rate by 20%
- Systolic BP greater than 180mmHg or less than 90mmHg
- Increased anxiety
- Diaphoresis
- Bleeding > 100mL per hour