

SICU Adult High Frequency Oscillator Orders

HFOV may be considered for patient when they meet the following criteria:

- $FiO_2 > 0.60$ and/or $SpO_2 < 88\%$
- $PaO_2/FiO_2 < 200$
- Conventional ventilation with PEEP > 15 cmH₂O, or
- Plateau pressures (Pplat) > 30 cmH₂O, or
- Mean airway pressure (mPaw) > 24 cmH₂O, or
- Airway pressure release ventilation P High > 35 cmH₂O

PROCEDURE: BEFORE PLACING PATIENT INITIALLY ON THE VENTILATOR

- Suction patient
- Sedate and paralyzing patient may be necessary
- Bias flow is set at approximately 35LPM and may be adjusted up or down to meet patient needs
- Set IT at 33%
- Set initial Hz at 5
- Set an initial mPaw at 5cmH₂O above the conventional ventilator mPaw or on the same mPaw as on APRV. You may consider a recruitment maneuver first if patient is extremely hypoxic.
- If oxygenation worsens, increase mPaw in 3-5cmH₂O increments every 30 mins
- Set power at 4.0 and rapidly increase to achieve chest wiggle (visual vibration from shoulders to mid-thigh area)
- Start FiO_2 at 1.0
- Connect the patient to the oscillator and start the oscillator
- Obtain an ABG in 30minutes of initiation then every 4 hours for 24 hours, every 6 hours then every 12 hours
- Check CXR within 1-4 hours of initiation

VENTILATION MANAGEMENT

Maintain good CWF (chest wiggle factor). If you lose wiggle or it becomes dampened, try the following:

- Suctioning
- X-ray to rule out pneumothorax
- Increase bed firmness on air mattress
- Increase amplitude

SEVERE HYPERCAPNEA WITH pH < 7.25

- Check X-Ray
- Decrease Frequency in increments of 0.5 every 30-60 minutes
- Create a small cuff leak. You want to deflate cuff until the mPaw drops 5cmH₂O. Stop the deflation, disconnect syringe, turn mPaw back to where it was originally set. If mPaw is bouncing around all over the place your cuff leak is too big.

- Consider increasing I Time % in increments of 5 until IT reaches 50%

WEANING: Once HFOV has been initiated and mPaw settings are stabilized

- Gradually titrate FiO₂ keeping SpO₂ > 92% and the PaO₂ < 65mmHg
- Titrate FiO₂ to ≤ 0.50 before reducing the mPaw
- Begin reducing mPaw in increments of 1-2cmH₂O every 4-6 hours
- If acceptable oxygenation on a FiO₂ of ≤ 0.50 with a mPaw ≤ 25cmH₂O consider conventional ventilation

CONVENTIONAL VENTILATOR SETTINGS When the above goal is met (but no sooner than 24 hours), switch to Pressure Control ventilation.

INITIAL SETTINGS

- Pressure control
- PIP titrated to achieve delivered TV of 6-8mL/kg
- Pplat < 35cmH₂O
- I:E of 1:1
- PEEP – 12cmH₂O mPaw should be 20cmH₂O (± 2cmH₂O)
- Rate 20-25/min
- ABG 1 hour after switching to PC
- Wean PEEP to 5cmH₂O by increments of 1-2 every 2 hours keeping SpO₂ > 92%