

# 3100B initial clinical guidelines

These guidelines are recommendations only and are based on data collected from trials with the CareFusion 3100B HFOV, and assume the clinician has read and understands the 3100B operator's manual. The physician must determine appropriateness of these guidelines as they apply to specific patients.



## Initiating HFOV

1. Set initial mPaw approximately 5 cmH<sub>2</sub>O above the conventional ventilator mPaw.
  - a. Consider a recruitment maneuver first if patient is extremely hypoxemic.
  - b. If oxygenation worsens, increase mPaw in 3 to 5 cmH<sub>2</sub>O increments every 30 minutes.
  - c. Check a chest x-ray within 4 hours to assess lung volume.
2. Set power at 4.0 and quickly adjust to achieve desired chest wiggle (visual vibration from shoulders to mid-thigh area).
  - a. Transcutaneous monitoring for PCO<sub>2</sub> should be considered.
  - b. If PaCO<sub>2</sub> worsens (but pH > 7.2), increase the power setting to achieve a change of amplitude in 10 cmH<sub>2</sub>O pressure increments every 30 minutes up to a maximum setting. If increasing the amplitude, frequency or IT% does not result in a significant decrease in PaCO<sub>2</sub>, strongly consider assessing lung volume (mPaw).
  - c. If pH is < 7.2, consider buffering pH.
  - d. An abrupt rise in PaCO<sub>2</sub> in an otherwise stable patient should be considered an obstruction of the endotracheal tube, until proven otherwise.
3. Set frequency in the range of 5 to 6 Hz initially.
  - a. Decrease the frequency if hypercapnea persists despite increases in amplitude and confirmation of adequate lung volume.
  - b. Decrease the frequency by 1 Hz at a time every 30 minutes until you reach a level of 3 Hz.

4. Set % inspiratory time (% IT) at 33%.
  - a. Consider increasing IT% up to 50% if hypercapnea persists despite increasing amplitude, decreasing frequency and confirming adequate lung volume.
5. If hypercapnea persists, consider decreasing the endotracheal tube cuff inflation to produce a leak.
  - a. Reduce the inflation of the cuff until you see a drop in the mPaw by 5 cmH<sub>2</sub>O. Readjust the bias flow to correct the mPaw level.
6. Initial FiO<sub>2</sub> at transition to HFOV may be set at 100%. Alternatively, increase current FiO<sub>2</sub> by 10%.

### **Weaning from HFOV**

1. As oxygenation improves, gradually wean FiO<sub>2</sub> to 40%, then slowly reduce mPaw 2 to 3 cmH<sub>2</sub>O every 4 to 6 hours until mPaw is in a 22 to 24 cmH<sub>2</sub>O range.
2. When the above goal is met (usually no sooner than 24 hours), consider switching to pressure control ventilation (i.e., PRVC or APRV).

**When returning a patient to conventional ventilation, mean airway pressure values should remain similar to those employed in HFOV. Weaning from conventional ventilation should follow individual institutional practice.**

Typical initial settings (patient dependant):

- a. PIP titrated to achieve delivered Vt of 6 to 8 mL/kg
- b. Pplat < 35 cmH<sub>2</sub>O
- c. I:E approximately 1:1
- d. PEEP approximately 12 cmH<sub>2</sub>O
- e. Rate approximately 20 to 25 per minute
- f. mPaw approximately 20 cmH<sub>2</sub>O (+/- 2cmH<sub>2</sub>O)

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