

3100A HFOV quick reference card



Controls at a glance

1. **Bias flow:** Adjusting Bias Flow will affect mean airway pressure

- Premature 8 to 15 LPM
- Nearterm 10 to 15 LPM
- Small child 15 to 25 LPM
- Large child 20 to 30 LPM

Lowering bias flow may decrease work of breathing and facilitate weaning

2. **Adjust:** Sets the mean airway pressure

- This control directly affects lung volume and gas exchange
- Initial setting is slightly higher than conventional ventilation

3. **Power:** Controls piston displacement

- Generally, start with a power of 2.0 and adjust for chest wiggle to umbilicus
- Adjust to achieve optimal PaCO₂

4. **Inspiratory time %:** Set to 33% for most neonatal applications

- For some patients, increasing inspiratory time % to 50 may improve ventilation and increase lung recruitment
- Once set, this control is not typically changed

5. **Frequency:** Breath rate is expressed in hertz (Hz)

- One hertz equals 60 breaths per minute
- Typical initial settings are 12 to 15 Hz for premature infants, 10 to 12 Hz for term and 8 to 10 Hz for infants and small children
- Initial frequency settings are dependent on patient size and lung pathophysiology—generally, the smaller the patient the higher the frequency: lower frequencies are employed for larger children and management strategies designed to minimize the potential for gas trapping
- A decrease in frequency = increased tidal volume
- An increase in frequency = decreased tidal volume
- Frequency is not typically changed during HFOV



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Weaning guidelines

While on HFOV:

- Wean FiO₂ as tolerated to target FiO₂
- Once FiO₂ is at or below the target FiO₂, begin to wean mean airway pressure by increments of 1 to 2 cmH₂O
- Assess for adequate lung inflation with chest x-ray and PaO₂
- Assess oxygenation with pulse oximetry

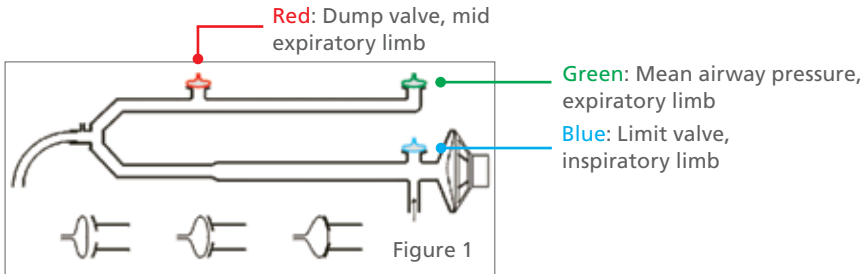
In air leak syndrome: Mean airway pressures are similar to those used in conventional ventilation; higher FiO₂s are typically used

Transition to conventional ventilation, nCPAP or nasal cannula is best tolerated when each of the following parameters are met:

1. Mean airway pressure is stable and appropriate for the pathology
2. Patient tolerates position changes and procedures well
3. Gas exchange and lung volumes are acceptable and stable

These are general guidelines only and assume the clinician has read and understands the 3100A operator's manual. The physician must determine the appropriateness of these guidelines as they apply to specific patients.

Valve assembly locations



Mean airway pressure

Mean airway pressure is regulated by controlling the inflation of the balloon valve in the expiratory limb of the circuit (Figure 1). As inflation pressure inside the balloon increases, the outflow of gas is restricted, providing mean airway pressure.

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