High Frequency Jet Ventilator: Basic Management Strategies

- **Monitor CXR for proper inflation 9-rib expansion**
- **Most patients should have:**
  Initial High Frequency Rate: 300 BPM <24 weeks GA or <600g; 360 BPM <27 weeks GA or <1,000g; 420 BPM ≥27 weeks or ≥1000g
  Inspiratory Time on the JET set at 0.02 sec = 20 milliseconds
  Sigh Breaths: Rate 4 BPM, PIP = PEEP + 6 cm, IT = 0.4 seconds. Increase PIP, Rate, or IT to improve oxygenation (treat atelectasis).
  Tidal Volume is primarily determined by the ΔP and oxygenation primarily by the MAP.

		Oxygenation		
		Inadequate or Poor (Increase FiO_2)	**Adequate or Good**	**Too Good (Decrease FiO_2)**
Ventilation	**Over Ventilated** **CO_2 is too Low**	Increase PEEP while keeping PIP constant. This increases MAP while decreasing ΔP to prevent hypocarbia.	Decrease ΔP by decreasing PIP and consider increasing PEEP if needed to keep the MAP constant to prevent atelectasis. If over inflated just decrease PIP to decrease TV.	Decrease PIP until CO_2 is acceptable. If still over inflated decrease PIP and PEEP by the same amount.
	Appropriate Ventilation **CO_2 is Adequate**	Increase both PIP and PEEP by the same amount to keep ΔP unchanged while increasing the MAP.	**No Changes**	Decrease PEEP and PIP by the same amount to decrease MAP to avoid over inflation. This keeps ΔP unchanged.
	Under Ventilated **CO_2 is too High**	Increase both MAP and ΔP by increasing PIP until CO_2 is acceptable. If oxygenation is still poor increase both PIP and PEEP by the same amount to keep ΔP constant while increasing MAP.	Increase ΔP by Increasing PIP.	Increase ΔP by decreasing PEEP to avoid over inflation until CO_2 is acceptable. If still over inflated decrease both PIP and PEEP by the same amount to decrease MAP.

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