



VDR® - 4 Quick Start Guide for Neonatal Patients

Neonatal Starting Guidelines

Operating Pressure (psi)	40
Pulse Frequency Rate (cycles)	600
Convective Rate (bpm) *	30
I time (seconds)	1.0
E time (seconds)	1.0
Oscillatory CPAP/PEEP	4-8
Pulsatile Flow (AIP)	15-20
Demand CPAP/PEEP	off
Convective Pressure Rise	off

For basic CO₂ manipulation:

Increase Pulsatile Flow in 2-4 cmH₂O increments up to 28-34 cmH₂O.

For basic oxygenation improvement:

Increase PEEP in 2 cmH₂O increments up to 8-12 cmH₂O.

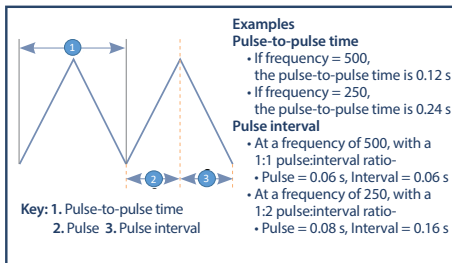
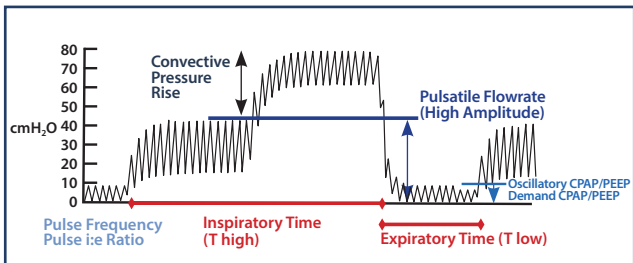
Increase FiO₂ appropriately.

* Breaths per minute (bpm)

Neonatal Patient VDR® -4 Strategies

RDS	Meconium Aspiration/ PPHN	Lung Protective strategies and reduce PIE/Air Leak
a. Pulse Frequency rate 600	a. Pulse Frequency rate 450 to 500	a. Pulse Frequency rate 500 to 600. Target 600 rate when possible.
b. PEEP 8 to 10 cmH ₂ O to narrow ΔP 6 to 14 cmH ₂ O	b. PEEP 6 to 8 cmH ₂ O to narrow ΔP 6 to 10 cmH ₂ O	b. PEEP 7 to 10 cmH ₂ O to narrow ΔP 6 to 8 cmH ₂ O
c. Pulsatile Flow for slight chest wiggle	c. Pulsatile Flow for good chest wiggle	c. Pulsatile Flow for slight chest wiggle
d. Convective Rate 30 bpm	d. Convective Rate 30 bpm	d. Convective Rate 25 bpm
e. I:E ratio 1:1 IT 1 second, ET 1 second	e. I:E ratio 1:1.5 IT 1 second, ET 1.5 seconds	e. I:E ratio 1:2 or greater. IT 0.6-0.8 seconds. ET 1.2 to 1.6 seconds
	f. Demand CPAP 2 cmH ₂ O to reach PEEP total.	
Weaning goals:	Weaning goals:	Weaning goals:
a. PEEP 6 to 7 cmH ₂ O with ΔP 4 to 8 cmH ₂ O	a. PEEP 6 to 7 cmH ₂ O with ΔP 6 to 8 cmH ₂ O	a. PEEP 6 to 7 cmH ₂ O with ΔP 4 to 6 cm H ₂ O
b. Pulsatile Flow ≤16 PIP	b. Pulsatile Flow ≤16 PIP	b. Pulsatile Flow ≤16 PIP
c. Wean Convective Rate slowly by 5 increments down to ±15 bpm	c. Wean Convective Rate slowly by 5 increments down to ±10 bpm	c. Wean Convective Rate slowly by 5 increments down to ±15 bpm
d. Insp. Time 0.7 to 1 sec. with I:E 1:2 to 1:3	d. Insp. Time 1 sec. with I:E > 1:1	d. Extubate from HFPV and don't go back to Conventional.

ANATOMY OF THE VDR®-4 WAVEFORM



Neonatal Patient VDR®-4 blood gas manipulation

Increase PaO₂ and Lower PaCO₂

- ↑ Pulsatile Flow by 2-4 cmH₂O up to maximum (28-34 cmH₂O)
- ↑ Oscillatory CPAP/PEEP by 2 cmH₂O, but keep the gap between pulsatile flow and Oscillatory CPAP/PEEP the same with adjustment. (Maximum 12 cmH₂O)
If the gap is decreased, then CO₂ removal may not be as effective.

Increase Oxygenation with PaCO₂ in Range

- ↑ FiO₂ if at low levels
 - ↑ Oscillatory CPAP/PEEP by 2 cmH₂O (Maximum 12 cmH₂O)
 - If maximum Oscillatory CPAP/PEEP is reached:
 - ↑ Pulse Frequency by 50-60 cycles to a maximum 800
 - * May cause some increase in CO₂
 - ↑ Time at P High
 - ↑ IT by 0.1-0.2 seconds up to 1.5 seconds maximum
- ⇒ BE PATIENT- it can take up to 2-4 hours for recruitment to take place.

Decrease CO₂ only

- ↑ Pulsatile Flow by 2 cmH₂O up to maximum (28-34 cmH₂O)
- ↓ Pulse Frequency by 50-60 cycles to a minimum of 400

Raise CO₂ with Low Amplitude

- ↓ Convective Rate by 5 bpm (minimum 15/min) by (↑ Exp. Time)
- ↓ Time at P high
 - ↓ IT by 0.1 to 0.2 seconds down to minimum 0.7 seconds
- ↑ Pulse Frequency in increments of 60 cycles to a maximum 800

NOTE: These are merely suggested guidelines based on clinical consensus.