

Guidelines and Best Practices for
Vapotherm High Velocity Nasal
Insufflation (Hi-VNI™)

NICU POCKET GUIDE



Patient Selection



SYMPTOMS:

Patient presents with one or more of the following symptoms:

- Mild to moderate respiratory distress
- Hypoxemia
- Retractions
- Tachypnea
- Mild apnea and bradycardia
- Grunting
- Nasal flaring
- Difficulty weaning from Nasal CPAP
- Difficulty weaning from mechanical ventilation

Diagnoses



DIAGNOSES:

These symptoms are indicative of but not solely attributed to:

- Infant Respiratory Distress Syndrome (RDS)
- Bronchopulmonary Displasia (BPD)
- Prematurity
- Separation from mechanical ventilation
- Separation from non-invasive ventilation
- Congenital Heart Defects
- Congenital diaphragmatic hernia (CDH)
- Transient Tachypnea of the Newborn (TTN)
- Meconium aspiration
- Persistent Pulmonary Hypertension (PPHN)

Vapotherm Cannula & Flow Selection

FITTING THE CANNULA:

- Make sure not to occlude greater than 50% of the internal diameter of each of the nares.
- Weights and recommended cannula size will vary depending on the inner diameter of the nares and the outer diameter of the cannula prongs in use.

	Cannula Sizes	Weight	Tip OD
	Premature	<700g	1.5 mm
	Neonatal	<1100g	1.5 mm
	Infant	>1100g	1.9 mm
	SOLO (P,N,I)	700-1100g	1.9 mm
	Intermediate Infant	>1100g	1.9 mm

FLOW SELECTION:

	Cannula Sizes	Cannula Flow Range	Typical Starting Flow (L/min)
	Premature	1-8 L/min	2-4
	Neonatal	1-8 L/min	4-5
	Infant	1-8 L/min	4-5
	SOLO (P,N,I)	1-8 L/min	4-5
	Intermediate Infant	1-8 L/min	4-6

CANNULA APPLICATION:

- Only Vapotherm cannulae should be used with the Precision Flow
- Select the appropriate cannula based on the above sizing chart
- Place the cannula on the patient before attaching the delivery tube
- Allow the system to reach the set point (temperature display will stop flashing) before connecting delivery tube to the cannula
- Vapotherm Low Flow Disposable Patient Circuits (red packaging) should always be used when treating neonatal patients

Therapy Implementation and Maintenance

			
PATIENT ASSESSMENT	FLOW	TEMPERATURE	FiO ₂
<p>SpO₂ > 88% with moderate  WOB</p>	<p>Start at 4 L/min and increase by 0.5 L/min as WOB requires</p>	<p>Start at 34°C increase temp to 36°C - 37°C as increase flow >4 L/min</p>	<p>Start at 21% and increase conservatively if needed to support SpO₂</p>
<p>SPO₂ < 88% with moderate  WOB</p>	<p>Start at 4 L/min and increase by 0.5 L/min as WOB requires</p>	<p>Start at 34°C increase temp to 36°C - 37°C as increase flow >4 L/min</p>	<p>Start at 25% and increase conservatively if needed to support SpO₂</p>
<p>SpO₂ < 88% with severe respiratory distress</p>	<p>Start at 5 L/min and increase by 0.5 L/min as WOB requires</p>	<p>36°C - 37°C</p>	<p>Start at 30% and increase conservatively if needed to support WOB</p>

Note: When using Vapotherm therapy with a radiant warmer or incubator set the Precision Flow within one degree of the radiant warmer or incubator.

Disclaimer: Suggested flow rates and FiO₂ settings are guidelines. Actual settings should be determined according to specific patient requirements and physician discretion.

Monitoring Therapy



PATIENT PARAMETERS

PATIENT PARAMETERS:

- Indices of work of breathing (WOB)
- SpO₂
- PCO₂
- FiO₂
- Nasopharynx patency
- Feeding tolerance



DOCUMENTATION

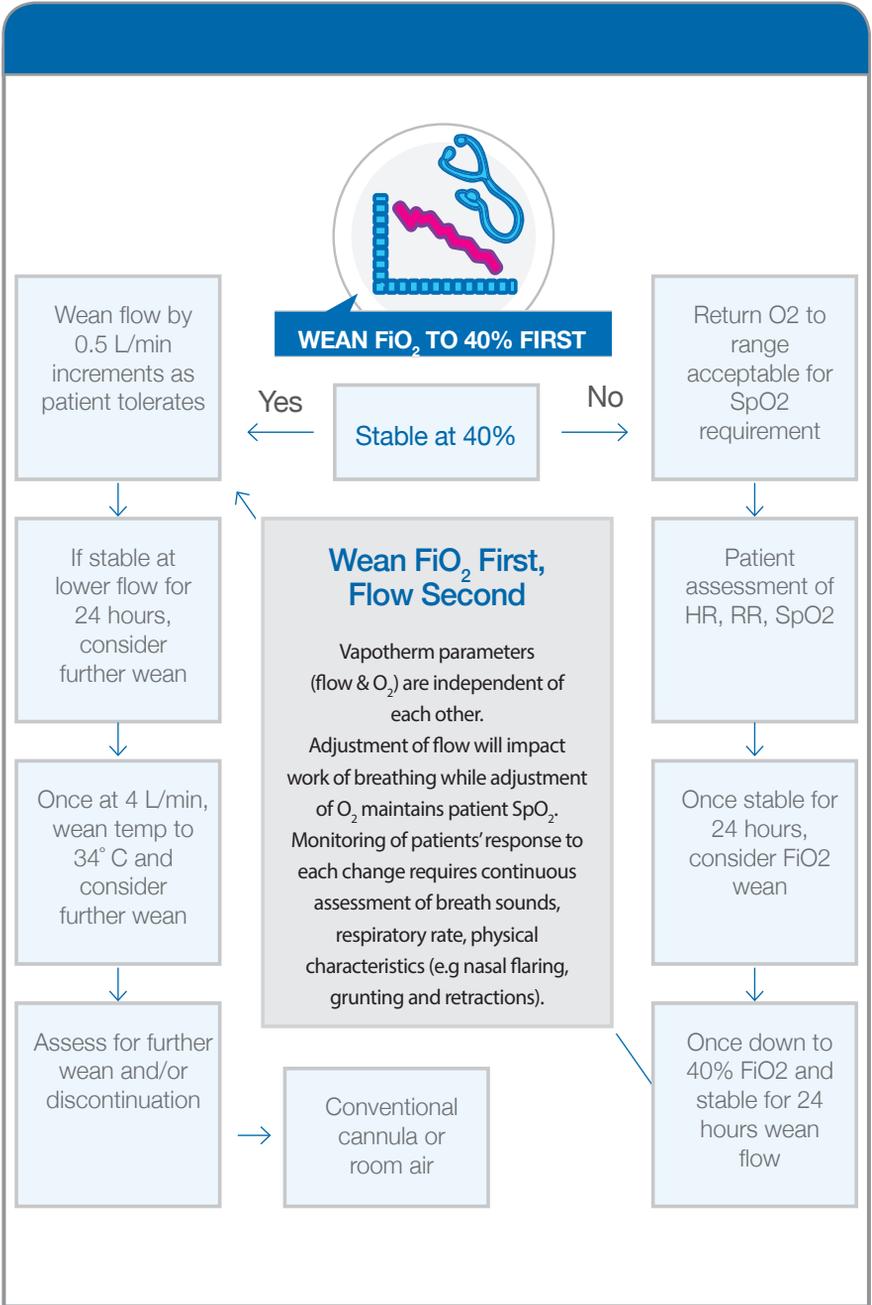
DOCUMENTATION:

Patient

- Heart rate
- Respiratory rate
- Work of breathing (WOB)
- SpO₂

Device

- Flow rate
- FiO₂
- Temperature
- Water level
- Cannula size



Accessories

USE WITH AEROGEN®

- An adapter is available for the Precision Flow to enable nebulizer treatments. The inline adapter is designed to be used specifically with the Aergen® Aeroneb® solo (AAA-1).
- The adapter is not for continuous use and should be removed after each treatment.
- It is important to maintain proper upright orientation of the inline adapter during the drug administration process. Vapotherm recommends the AAA-1 be at an upright 45° angle to minimize condensation.

USE WITH NITRIC OXIDE

- Vapotherm technology is verified for use with INOmax® DS and DSIR (PF-NODPC-LOW 1-8 L/min, PF-NODPC-HIGH 5-40 L/min).
- Note: See Ikaria® for instructions for use.

USE WITH PRECISION FLOW HELIOX®

- Vapotherm offers an ideal solution for convenient delivery of conditioned helium-oxygen gas mixtures (Heliox).
- Heliox has a significantly lower density than typical air/oxygen mixtures.
- The lower gas density reduces the work of breathing by reducing the force needed to move gas through the airways.
- Heliox is commonly used on patients with diseases of increased airway resistance, such as bronchiolitis, asthma, post-extubation stridor, airway compression, intra and extrathoracic airway obstruction.
- Precision Flow Heliox strategies follow the same general clinical guidelines for air-oxygen mixtures, except FiO_2 should be titrated between 0.21 and 0.4 since higher oxygen concentrations (and lower helium concentrations) would result in a less significant clinical effect.
- Vapotherm Heliox Disposable Patient Circuits (DPC)
PF-DPC-LOW 1-8 L/min
PF-DPC-HIGH 5-40 L/min



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