Vapotherm Precision Flow® High Flow Therapy
Frequently Asked Questions

For which neonatal patients is Vapotherm therapy appropriate?
Any spontaneously breathing patients without contraindications may benefit from the therapy. Precision Flow is FDA cleared for delivering high flow therapy for neonatal and pediatric patients. It is the only integrated system specifically cleared to deliver high flow therapy, not just humidification.

What are the contraindications for Vapotherm therapy?
Vapotherm therapy is contraindicated for patients with occluded or defective nares or for any situations where humidification is contraindicated.

How well tolerated is Vapotherm therapy?
Mask-free Vapotherm therapy is extremely comfortable for the patient, and the warmed gas reduces the energy they expend on respiration. The seven foot delivery tube and simple cannula interface facilitate kangaroo care and patient/family interaction. Babies that are capable can nurse while on Vapotherm therapy which may help them gain weight faster.

Is Vapotherm Precision Flow a CPAP device?
No. The Vapotherm system is an open flow system; CPAP systems are closed pressure based systems. CPAP is a lower airway therapy that supports respiration by facilitating increased minute ventilation. Vapotherm is an upper airway therapy that supports respiration through flushing the anatomical dead space with fresh gas and improving breathing efficiency regardless of minute ventilation.

How does Vapotherm therapy compare to CPAP therapy?
Studies have shown that Vapotherm high flow therapy supports most neonatal patients as effectively as CPAP. However, because it uses a simple nasal cannula interface, Precision Flow leads to a lower incidence of iatrogenic problems such as skin breakdown, and allows patients to be easily held and cared for by family and caregivers.

Is it possible to determine the level of PEEP at various flow rates?
Vapotherm is a flow therapy, not a pressure therapy. The unique design of the Vapotherm cannula prevents pressure build up in the patient.

What clinical studies are available on the therapy?
Multiple studies of Vapotherm therapy have shown a reduction in reintubation rates compared to CPAP, low flow oxygen therapy and humidified oxygen therapy, including studies specific to neonatal patients. A bibliography of peer reviewed studies in leading journals is available on the website.

Is there any concern about delivering too much water in the conditioned gas?
In less controlled systems condensation in the conditioned gas delivered to a patient can cause water build up which in the neonate can cause apnea and bradycardia. However, Vapotherm’s humidification cartridge creates molecular vapor that, in combination with highly controlled temperature in the delivery circuit, diminishes the chance of condensation in the conditioned gas.
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Is the Vapotherm delivery tube safe to use in a radiant warmer?
Yes. While some systems with heated wire circuits cannot be placed in the warmer, Vapotherm uses a patented triple lumen water insulated delivery tube that is safe even if it comes in contact with the patient’s skin. The same water insulated tubing prevents the radiant warmer from affecting the temperature of the delivered gas.

What are the recommended temperature and flow rate settings?
Purging the anatomical dead space requires flows significantly greater than inspiratory demand, usually 4 - 8 LPM for neonatal patients according to the patient size and condition. Vapotherm recommends 36 - 37°C temperature setting unless flow rates are under 3 LPM where 34°C may be considered.

Are there specific recommendations regarding application of the cannula to the patient?
Vapotherm cannulas are designed specifically for delivering the therapy and are available in several sizes. Cannula size should occlude less than 50% of the internal diameter of the nares in order to promote optimal CO₂ flush. Unlike other cannulas with large prongs or difficult geometry, the Vapotherm nasal cannula is simple and reliable, and does not require specialized fixation to the patient.

How is Vapotherm therapy different from other high flow nasal cannula methods?
Vapotherm Precision Flow integrates flow, FiO₂, and temperature control in one device, and is the only integrated system designed and cleared specifically for high flow therapy.

It can be set-up for use in less than five minutes while products based on conventional humidifier technologies require significant assembly and warm-up time. It consistently delivers highly conditioned gas all the way to the patient, while other systems may have difficulty with rain-out and with delivering consistent temperature and humidity.

Conventional systems often have large cannula sizes that can cause excess pressure build-up and therefore require pop-off valves that divert some of the flow, and the therapy, out the back of the circuit.

Can Vapotherm be used with Nitric Oxide and Heliox?
A special disposable circuit has been validated for delivery of nitric oxide. A special version of the Precision Flow device is available for use with Heliox mixtures.

How do I know therapy is being delivered?
The Vapotherm Precision Flow unit displays parameters important to high flow therapy, the flow rate, temperature, and %FiO₂ in large numbers that can be seen across the room. The Precision Flow instrument also includes alarms and alerts that tell if there is any disruption to therapy delivery such as a blocked line, disrupted gas supply or running out of water for humidification.