

## PRE-VAPOTHERM VERSUS VAPOTHERM RESPIRATORY SUPPORT IN THE NICU

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**Introduction:** Vapotherm high flow therapy provides breathing support to neonates requiring respiratory support. Prior to Vapotherm the options available included HFOV, mechanical ventilation, nCPAP, standard NC. Vapotherm provides breathing gas by nasal cannula at flows up to 8 LPM for neonates at 100% relative humidity and body temperature. We compared respiratory support by type of intervention pre-Vapotherm and with Vapotherm. **Methods:** Data was collected from patients in our NICU during 1999, pre-Vapotherm and repeated in 2004 allowing for the use of Vapotherm. Respiratory interventions included HFOV and mechanical ventilation (Vent/HFOV), nCPAP, NC/Hood, and Vapotherm per days of use. **Results:** In 1999 we had 469 patients needed respiratory support. Vent/HFOV days = 1,715 (23%), nCPAP days = 1,869 (26%), and NC/Hood days = 3,707 (51%). In 2004 we had 233 patients requiring respiratory support. Vent/HFOV days = 737 (20%), nCPAP days = 311 (8%), NC/Hood days = 1,030 (28%), and Vapotherm = 1,594 days (43%). **Discussion:** The introduction of Vapotherm has decreased nCPAP days percentage by 69%. We also found significant decreases in all other forms of respiratory support. Vapotherm, in our unit, was also associated with observed decreases in nasal septal breakdown, mucous plugging, and nasal bleeding that have been noted with nCPAP and NC. **Conclusion:** Vapotherm is a new adjunct to treatment of the neonate requiring respiratory support. In our NICU, the introduction of Vapotherm decreased, in particular, nCPAP as well as all other methods of respiratory support.