

**THE USE OF VAPOTHERM IN AN NICU. EFFECTS ON RESPIRATORY SUPPORT AND COST.** Jorge Rojas, MD. Baptist Hospital.

Nashville, Tennessee.

Vapotherm High Flow Nasal Cannulae was used exclusively instead of NCPAP for extubation and initial therapy of RDS after July of 2004. This report compares the respiratory support and respiratory therapy charges during the previous six months (04-01) and the first six months of Vapotherm use (04-02). There were 377 patients that survived during these periods and required respiratory support. 167 in 04-01 and 212 in 04-02. The percent of babies requiring intubation, the days on the respirator and oxygen therapy and Hospital length of stay were analyzed in three different groups according to birth weight.

	BW < 1000 g		BW 1001-1500 g		BW >1500 g	
Period	04-01	04-02	04-01	04-02	04-01	04-02
Number	N=9	N=8	N=23	N=23	N=133	N=181
% Intubated	100 %	100 %	43.48 %	30.43 %	22.56 %	11.05 %*
Days on Resp	24.11±2.6	11.00±1.9*	4.48±1.1	4.61±1.3	2.2±0.6	2.4±0.3
Oxygen Days	46.22±4.3	41.25±5.6	12.78±2.4	7.83±4.1	5.3±1.8	5.1±2.4
Hospital Days	78.38±10.1	64.62±8.8	28.81±6.4	33.43±4.8	11.73±2.7	11.83±2.3

All data Mean±S.D. \*P<0.05

The respiratory Charges for all babies during the 04-01 and 04-02 periods were:

Period	04-01	04-02	Percent Change
Oxygen Hood	\$ 64,999.00	\$69,664.00	+ 7.17 %
Respirator	\$206,820.60	\$100,314.81	- 51.49 %
Isollete Oxygen	\$232,649.25	\$156,246.15	- 32.84 %
Vapotherm	\$0.00	\$182,120.00	+ 100 %
NCPAP	\$88,937.60	\$2,393.60	- 97.30 %
TOTAL	\$593,406.45	\$510,740.93	- 13.93 %

The Use of Vapotherm, reduced significantly the number of infants that required intubation in the >1500 g group and in the <1000 g group reduced significantly the number of days on the ventilator. Charges for ventilators, NCPAP and Isollete Oxygen decreased but overall charges were comparable for both periods. We concluded that the use of Vapotherm as initial and post extubation therapy for RDS decreases ventilator use in NICU patients. We speculate that reducing the use of respirators may reduce morbidity such as infection and chronic lung disease.