THE USE OF NON-INVASIVE VENTILATION (NIV) IN THE POST ANESTHESIA CARE UNIT (PACU) IN AN ACADEMIC MEDICAL CENTER

Dean A. VanHart RRT, Andrew G. Miller RRT, John Davies RRT FAARC, Janice Thalman RRT FAARC,
Neil MacIntyre MD FAARC
Duke University Medical Center
Durham NC

Background: NIV can be a valuable support therapy in the Post Anesthesia Care Unit (PACU). At the same time NIV can have a significant impact on Respiratory Care Services (RCS) since they are the ones that most often provide this service. This review evaluates NIV utilization in the PACU at Duke Hospital.

Methods: All patients who received NIV in the PACU between 01/01/2010 and 7/23/12 were identified through a search of RCS electronic records following an IRB approved protocol. Data tracked included: indication, home unit availability, life support vs. non-life support use (NIV is classified as life support if the patient would suffer harm if NIV was removed) and need for re-intubation.

Results: One hundred forty-five patients received NIV in the PACU over the 31 month period. Forty-eight (33%) were classified as life support and 97 (67%) non-life support NIV. RCS owned equipment was used in 97% of cases. The indications for NIV are summarized in the table below. Fifty-seven (39%) patients had the indication documented as OSA. Of those 57 patients, 19(33%) lacked a preadmission diagnosis of OSA. For six month intervals starting January 1, 2010 and ending June 30, 2012 the number of subjects receiving NIV in the PACU were: 20, 25, 44, 25, and 28, respectively. Nine (6%) patients required re-intubation, 136 (92%) were discharged and 3 (2%) were DNR patients who expired without further intervention.

	Obstructive Sleep Apnea	**Respiratory Distress**	**Facilitate Ventilator Weaning**	**Hypercarbia**	**Chronic Respiratory Insufficiency**	**Other**
All Patients n=145	57 (39%)	32 (22%)	27 (19%)	12 (8%)	6 (4%)	11 (8%)
Life support n=48	5 (10%)	24 (50%)	7 (15%)	7 (15%)	0 (0%)	5 (10%)
Non-Life Support n=97	52 (54%)	8 (8%)	20 (21%)	5 (5%)	6 (6%)	6 (6%)

Conclusion: Noninvasive ventilation is provided for a broad range of patient acuity in the PACU. This review suggests RCS support from an advanced practitioner is required in the PACU. Respiratory Care departments should consider the PACU in resource procurement and clinician development.