

A HEALTHY WAY TO VENT: CAPNOGRAPHY MONITORING IN THE PACU

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BACKGROUND INFORMATION:

CO2 capnography is gaining recognition as a useful monitoring tool for patient ventilation and could be very valuable in the post-operative phase when patients are at high risk for ventilation problems. Research has demonstrated that capnography can measure apneic events, changes in respiratory rates, and detect hypoxia up to 2-3 minutes earlier than pulse oximetry.

OBJECTIVES OF PROJECT:

The purpose of this project was to investigate the usefulness of CO2 capnography monitoring on PACU patients at high risk for ventilation problems.

PROCESS OF IMPLEMENTATION:

All PACU RNs received training and education on CO2 monitoring. An inclusion criteria list was established based on patients with predicted high-risk ventilation problems post-operatively. These patients were placed on CO2 monitor with either a nasal canula device or an endotracheal tube device. A "CO2 Capnography Monitoring Tool" was created for RNs to fill out with each CO2 monitored patient. Data was collected over 7 months. Anesthesiologists were aware of the project as a collaborative effort.

STATEMENT OF SUCCESSFUL PRACTICE:

Data was collected on 51 patients. The highest indications for CO2 monitoring (inclusion criteria) were intubated patients (25%), patients with a history of obstructive sleep apnea (OSA) (18%), and status-post open heart surgery patients (15%). The most common interventions done were to stimulate the patient (30%), increase oxygen delivery (14%), and decrease further pain medications (12%). Approximately 10% had a change in plan of care; it was found that among this group of patients, 4/5 had a history of OSA which required intervention to be placed on BiPap, or increased level of care. Only 1/5 that were intubated had a change in plan of care, and there was no change in plan for open heart patients.

IMPLICATIONS FOR ADVANCING THE PRACTICE OF PERIANESTHESIA NURSING:

CO2 monitoring serves as an extra non-invasive monitoring tool that is not harmful to the patient and can catch early signs of ventilation problems. Based on our findings, there is a strong implication for pre-operative OSA screening since these patients had higher incidence of change in plan of care post-operatively. Upcoming plans will include incorporating a structured OSA screening tool in the admission process to capture patients that may require capnography monitoring and additional interventions.