OBSTRUCTIVE SLEEP APNEA: AVERTING A RESPIRATORY EMERGENCY

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Background Information: The number of patients with obstructive sleep apnea (OSA) requiring postoperative monitoring is increasing. Capnography, applied infrequently in the PACU and not used on the surgical floors, provides a valuable vital sign for OSA patients at risk. Appropriate implementation of capnography requires early identification of risk.

Objectives of Project: A process improvement project was designed to promote the early identification of potential respiratory emergencies for postoperative spinal surgery patients with known OSA or over sedation due to anesthesia and postop narcotics.

Process of Implementation: Interdepartmental collaboration occurred with participation from: Preadmissions, Preop/PACU, Anesthesia, Neurosurgery, Respiratory, Surgical Nursing, Clinical Education, and Quality and Safety Department. Resources, tools and processes were developed to implement consistent capnography monitoring and assessment.

- All Preop/PACU, Medical/Surgical Nurses and Respiratory Therapists are educated on capnography with a 90 minute in-service program (educational module and hands on)
- All patients are screened by the Preadmission Nurse during the phone interview using STOP-BANG/OSA risk assessment and documented for all disciplines on the OR schedule.
- Preoperatively, the Preop RN places the patient on continuous oxygen monitoring.
- Preoperatively, Anesthesia develops a plan of care minimizing perioperative narcotics and sedatives.
- Postoperatively, PACU capnography monitoring is initiated and patient's CPAP applied as needed.
- Postoperatively, a surgical order for bedside capnography is initiated triggering a monitor to be placed on the inpatient unit by a Respiratory Therapist for when patient is transferred.
- PACU RN gives Medical/Surgical RN bedside report and patient receives capnography monitoring for the next 36 hours.

Statement of Successful Practice: Prior to implementation, only known OSA patients were identified. The process improvement resulted in the identification of high risk patients. Prior to the implementation of this process, two postoperative spine surgery patients required activation of the Rapid Response Team for respiratory compromise and after implementation, out of the 70 postoperative spinal patients assessed as known OSA or high risk, there have been no respiratory emergencies.

Implications for Advancing the Practice of Perianesthesia Nursing: Capnography is a valuable tool providing an early indicator of potential respiratory emergencies. A multidisciplinary approach to implement capnography and identify high risk patients can improve patient outcomes.