MULTIDISCIPLINARY TEAM APPROACH SIGNIFICANTLY REDUCES STAT CALLS, ICU TRANSFERS, AND POSTOPERATIVELY RESPIRATORY FAILURE RATES

Team Leaders: Tamera Bird BSN RN CCRN, Kimberly Latham BSN RN CCRN
The Christ Hospital Health Network, Cincinnati, Ohio
Team Members: Brenda Johnson BSN RN CPAN CPHQ, Victoria Roelker RRT,
Joyce Burke BSN BES RN CPAN NE-BC

Background Information: Two post-operative patients were noted to have respiratory events leading to ICU admissions within a one month period. A retrospective chart review revealed the events were possibly related to undiagnosed Obstructive Sleep Apnea (OSA). Patients with OSA have an increased risk for re-intubations, unexpected ICU transfers, and post-operative infections compared with non-OSA patients (Gammon, 2012). A process was needed to screen, educate, and monitor patients with known OSA and those at risk for OSA.

Objectives of Project: Reduce postoperative complications due to known or unknown OSA

Process of Implementation: A multidisciplinary team was formed to develop an action plan. Initially, capnography and/or oximetry for patients on patient controlled analgesia (PCA) was implemented throughout the hospital. A process was developed for all surgical patients to be evaluated preoperatively using an OSA screening tool. Patients with a history of, or those found to be at risk for, OSA were placed on capnography monitoring in the Post Anesthesia Care Unit (PACU). Admitted patients were monitored with capnography until discharge. Patients with recurrent respiratory events consistent with OSA were evaluated by a physician and placed on non-invasive positive pressure ventilation as indicated. All patients participating in the OSA Program received OSA education upon discharge and instructions to follow up with the primary care physician, as appropriate. After implementation, the team improved and revised the algorithm, and also implemented changes to facilitate a more optimal level of communication and care coordination.

Statement of Successful Practice: Emergency response calls related to respiratory events, transfers to ICU from non-telemetry surgical floors, and Postoperative Respiratory Failure rates have been significantly reduced (with 95% confidence) in the three years since implementation of the new OSA screening protocol and treatment algorithm, 0.088% to 0% $p < 0.01$, 0.438% to 0.214% $p < 0.01$, and 1.6% to 0.26% $p < 0.02$, respectively.

Implications for Advancing the Practice of Perianesthesia Nursing: Using a multidisciplinary team approach improved safety and quality of care for patients who had known, or were at risk for, OSA. Recommendations include the development of a similar OSA screening process for non-surgical hospitalized patients with known, or those at risk for OSA.