

## OBSTRUCTIVE SLEEP APNEA: A MULTIDISCIPLINARY TEAM APPROACH TO SIGNIFICANTLY REDUCE RESPIRATORY COMPLICATIONS AND ICU ADMISSIONS

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**Problem Statement:** 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.

**Project Description:** 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 then 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.

**Results:** Emergency response call rates related to respiratory events decreased from 0.088% to 0% ( $p < 0.01$ ), transfers to ICU from non-telemetry surgical floors decreased from 0.438% to 0.214% ( $p < 0.01$ ), and Postoperative Respiratory Failure rates decreased from 1.6% to 0.28% ( $p < 0.004$ ) since the beginning of this journey.

**Conclusions:** Using a multidisciplinary team approach improved safety and quality of care for patients who had known, or were at risk for, OSA. Statistically significant decreases were found in respiratory complications and those leading to ICU admissions. Recommendations include the development of a similar OSA screening process for non-surgical hospitalized patients with known, or those at risk for OSA.