At risk: Obstructive sleep apnea patients

Issue:

Obstructive sleep apnea (OSA) is a common sleep-related breathing disorder characterized by repetitive, periodic, partial or complete obstruction of the upper airway during sleep, with periods of breathing cessation lasting for more than 10 seconds. Many surgical patients – whether it is known they have OSA or not – are at risk for complications during a hospitalization or surgery.

OSA occurs in both adults and children, and patients with OSA can experience complications when receiving sedatives, such as opioid analgesia or general anesthesia. These medications “diminish the protective arousal reflex triggered by bouts of hypoxia, thereby increasing the risk of prolonged periods of apnea and respiratory arrest.” Sedatives and narcotics can decrease pharyngeal muscle tone, “which can worsen existing OSA and increase upper airway resistance.”

The Joint Commission has received 61 sentinel event reports in which the patient was diagnosed with or suspected of having OSA. OSA may have been a contributing factor in some of these cases, however, the nature of OSA presents difficulties in directly associating OSA with the patient’s death or injury. OSA is associated with numerous comorbidities, such as diabetes, hypertension, stroke, heart failure and coronary artery disease. The risk factors for OSA are included in the box at the right.

OSA affects approximately one of four adults in the United States. Approximately 90 percent of people go undiagnosed. OSA in children is an additional concern. Adenotonsillar hypertrophy is often associated with OSA and can lead to perioperative complications. A care plan for these children should consider opioid-sparing anesthetic and analgesic approaches.

A common chronic disorder that requires lifelong care, OSA symptoms include:
- Snoring, restlessness or resuscitative snorts during sleep
- Respiratory efforts during arousals from sleep
- Daytime symptoms due to disrupted sleep, such as sleepiness, fatigue or poor concentration

Staff in The Joint Commission’s Division of Healthcare Improvement cites the following concerns regarding OSA:
- Lack of training for health care professionals to screen for and recognize OSA
- Failure to assess patients for OSA
- Lack of guidelines for the care and treatment of individuals at risk for, and those diagnosed with, OSA
- Failure to implement appropriate monitoring of patients with risk factors associated with OSA
- Lack of communication among health care providers regarding patients with OSA or potential risk factors associated with OSA
- Lack of postoperative evaluation and treatment for OSA

Risk factors for OSA
- Obesity (BMI > 35)
- Male gender
- Advancing age
- Craniofacial or upper airway soft tissue abnormalities
- Smoking
- Congestive heart failure
- Atrial fibrillation
- Nasal congestion
- Menopause
- Family history

Safety Actions to Consider:
Staff at hospitals and surgical facilities can use the following safety actions to help prevent OSA-related complications, and protect patients from potential harm:

Screen and identify any patient suspected of having OSA. Appropriate screening would minimize the number of undiagnosed patients who present for surgery, and allow them to get the additional care and therapy they may need.

- While there are no validated guidelines for specific screening and identification of patients most at-risk for OSA-related surgery complications, there are tools available to identify these individuals. Some OSA evaluation techniques organizations may want to consider implementing include: Epworth Sleepiness Scale (ESS), STOP-BANG Questionnaire, Apnea Risk Evaluation System (ARES) and Berlin questionnaire.
- Consider adding sleep pattern questions as part of a nursing assessment upon inpatient admissions and during surgical reviews.
- If a patient is screened as high risk for OSA, refer them for diagnosis and treatment.

Evaluate the patient's plan of care to ensure all precautions are taken while in your facility. Some aspects of care to consider include:

- Assessing the use of sedating medications and narcotics
- Continuous pulse oximetry monitoring of the patient in an observed environment
- Use of supplemental oxygen or positive airway pressure device
- Patient positioning

Use the following guidelines for the use of anesthesia with suspected OSA patients:

- For pediatric patients: The American Academy of Pediatrics (AAP) revised guidelines for managing and monitoring sedation. These guidelines include thorough and careful prescreening for underlying medical or surgical conditions, including OSA, that would place the child at increased risk of adverse events related to sedating medications.
- For adult patients with known OSA, follow the recommendations of the American Society of Anesthesiologists 2006 Task Force. Be aware that intermittent pulse oximetry or continuous bedside oximetry without continuous observation does not provide the same level of safety.

Resources:
2. Shear TC, et al. Risk of sleep apnea in hospitalized older patients. Journal of Clinical Sleep Medicine, 2014;10(10)
7. American Society of Anesthesiologists: Practice guidelines for the perioperative management of patients with obstructive sleep apnea. A report by the American Society of Anesthesiologists Task Force on Perioperative Management of Patients with Obstructive Sleep Apnea. Anesthesiology, February 2014;120(2)


Note: This is not an all-inclusive list.