

# Identifying Patients at Risk for Obstructive Sleep Apnea Using the STOP-BANG Questionnaire



M. Betsy Kasper, RN

Robin M. Kaufman, DNP, CNP

Claire Markarian, BSN, RN

Judy Shelton, RN

## Purpose

The purpose of this evidence based project was to optimize patient safety through improved screening and education for patients at risk for Obstructive Sleep Apnea (OSA) in the Center for Preoperative Evaluation (CPE).

## Background

- With the change to a new Electronic Health Record, the OSA screening tool was no longer available. Clinical nurses in CPE wanted to implement a new screening process to ensure patients with OSA were identified to optimize peri and postoperative safety.
- Obstructive sleep apnea (OSA) is prevalent, often undiagnosed, and undertreated.
- An estimated 1 in 4 US adults suffer from OSA and 90% are undiagnosed (Chung, Yuan, & Chung, 2008; The Joint Commission, 2015).
- OSA can contribute significantly to peri-operative complications (Joint Commission, 2015).
- Diagnosis of OSA is associated with a two to four fold increase in postoperative complications (Kaw, Pasupuleti, Walker, Ramaswamy, & Foldvary-Schafer, 2012).

## Methodology/Process

### Educational Intervention

- All clinical nurses (n=13) and nurse practitioners (n=12) were educated about OSA and the use of the STOP-BANG Tool to assess risk during small group educational sessions.
- Pre and post test data was collected to evaluate the change in knowledge.

### Patient Screening

- At every CPE visit the STOP-BANG tool was completed in the electronic health record (EHR).
- Patients with a score of  $\geq 3$  received education on general health, peri-operative risk for OSA, the importance of follow-up with PCP, benefits of appropriate treatment, and safety after surgery.

STOP-BANG Questions	Responses	
Do you snore loudly?	Yes	No
Do you often feel fatigued or tired after your sleep?	Yes	No
Has anyone ever observed you stop breathing in your sleep?	Yes	No
Do you have or are you being treated for high blood pressure?	Yes	No
BMI > 35kg/m <sup>2</sup> ?	Yes	No
Age older than 50 years old?	Yes	No
Neck circumference > 17inches male, 16 inches female?	Yes	No
Gender male?	Yes	No
<b>Risk scoring for the general population</b>		
OSA - Low Risk : 0 – 2		
OSA - Intermediate Risk : 3 - 4		
OSA - High Risk : Yes to 5 - 8		

## Outcomes

### Educational Intervention

- Pre - post test data analysis showed a mean increase of 2.11 in the knowledge test score.

### Patient Screening

- Compliance with completing the STOP-BANG screening tool was approximately 89%.
- OSA Screening Results:
  - Prior to the educational intervention 11.02% of patients were identified as increased risk for OSA.
  - After the educational intervention:
    - 36.5% of patients identified with a score of  $\geq 3$
    - 21.7% of patients had a score of 5-8

## Implications

STOP-BANG screening is now integrated into usual care in CPE.

Education and use of the STOP-BANG Tool has been expanded to the Preoperative holding area, Post Anesthesia Care Unit and the surgical inpatient unit.

Patients are being educated on their risk factors, the need to follow-up with their PCP, and interventions to reduce risk of post-operative events.