

Understanding Obstructive Sleep Apnea (OSA) and Potential Risks for Endoscopy Patients: Breaking the Mold in Patient Safety by Implementation of OSA Screening

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Background

Evidence has revealed that the prevalence of Obstructive Sleep Apnea (OSA) is increasingly widespread, with patients undergoing sedative procedures that have undiagnosed OSA. Risks for complications related to this condition are often respiratory events, including upper airway collapse and oxygen desaturation.

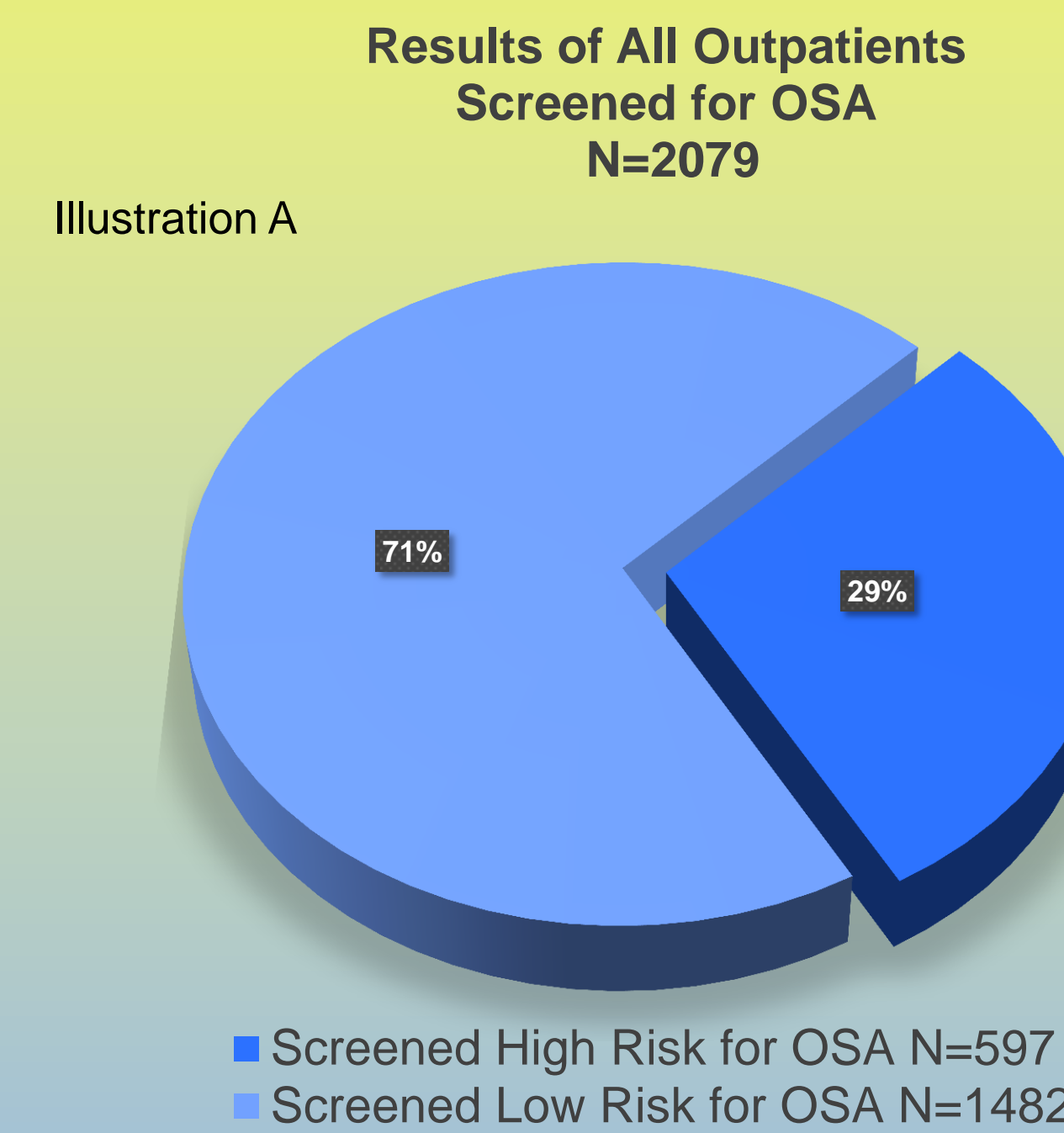
Statistically, between 82-92% of men and women who actually have moderate-to-severe OSA have not been diagnosed.³ Other diseases linked to OSA, such as hypertension, heart disease, and obesity, further predispose patients to adverse respiratory effects when undergoing sedation.

Sedation Creates Additional Risks for Patients with OSA

- IV sedative medications cause relaxation of the upper airway muscles, as well as decreased width of the airway. Smaller doses of sedative medication than normal can affect the already narrow airway in patients with OSA.
- Sedative medication decrease arousability, a vital protective mechanism in OSA patients.
- Supine lateral positioning during colonoscopy, sleep deprivation associated with anxiety and bowel prep, and discontinuation of CPAP therapy, can contribute to a higher risk for OSA patients undergoing sedation.
- Hypoxemia is the most frequent complication of the adverse effects of sedatives on patients with OSA.

29% of Our Patients Have Diagnosed OSA Or Screened High Risk for OSA

In a seven month study using the Stop-Bang questionnaire, we realized that 29% of our outpatient population either have OSA or are at high risk for OSA (Illustration A). Of the 29% of patients who screened high risk, 44% had a known OSA diagnosis. 56% of the high risk group had no diagnosis or knowledge of their risk for OSA. (Illustration B).



How do we Keep Our Patients Safe?

Our current practice for monitoring all sedated patients is use of pulse oximetry along with capnography during the intra-procedure phase. In recovery, patient's respiratory status is monitored with pulse oximetry only.

Evidence supports the high prevalence of undiagnosed OSA; a more vulnerable population when considering patient safety and potential complications related to sedation.

We feel that with identification of patients at risk for OSA, nurses can have an impact on how patients are managed, resulting in practice changes in our unit.

Understanding OSA

OSA is a sleep disorder where the patient unconsciously stops breathing for periods of time during sleep.

- Pauses in breathing may last a few seconds to minutes, and can occur 5-30 times or more per hour.
- As the patient falls asleep, decreased muscle tone results in repeated partial collapse of the pharyngeal airway.
- Patients with OSA have narrower airways that are even more susceptible to airway collapse. With continued airway tissue collapse, complete airway obstruction may occur.
- Airway obstruction causes decreased or cessation of airflow into the lungs, resulting in lower levels of oxygen in the blood. Then, as carbon dioxide levels increase, the patient is aroused from sleep, and airflow is restored.
- Patients can be unaware of sleep arousals, but the disrupted sleep patterns account for daytime sleepiness and fatigue characterized by patients with OSA.

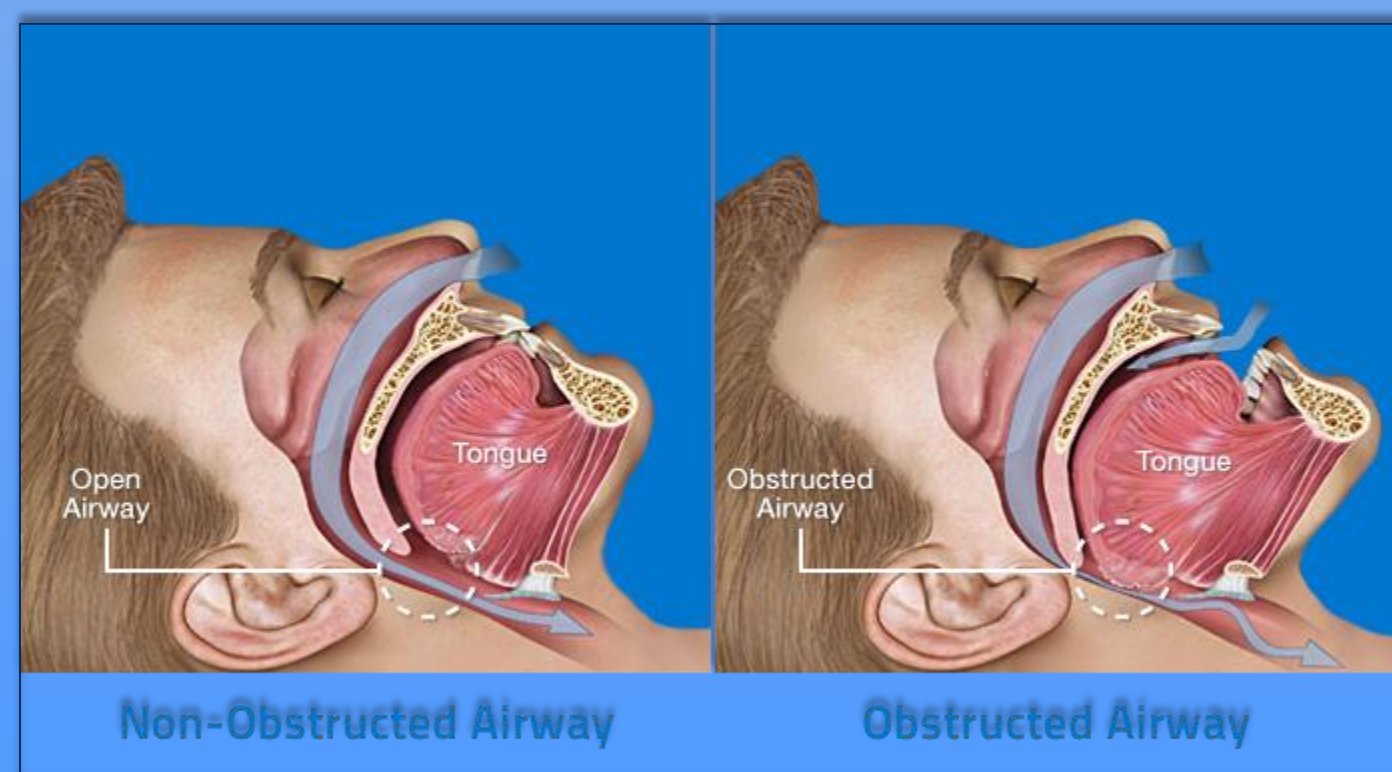


Photo from <http://curemysleepapnea.com>

Implementation of a Screening Tool To Assess Risk for OSA

Screening via questionnaire has proved feasible and has a high incidence of accuracy in predicting risk for OSA. The STOP-BANG questionnaire was determined to be the most accurate in predicting OSA risk.⁴

In our Midwest community hospital outpatient setting, nurses were educated on use of the STOP- BANG questionnaire. The results of each questionnaire was used to identify patients who have been diagnosed with OSA, or who may be at high risk for OSA.

STOP-BANG QUESTIONNAIRE

Yes	No	Snoring? Do you Snore Loudly (loud enough to be heard through closed doors or your bed-partner elbows you for snoring at night)?
Yes	No	Tired? Do you often feel Tired, Fatigued, or Sleepy during the daytime?
Yes	No	Observed? Has anyone Observed you stop breathing, or choking/gasping during your sleep?
Yes	No	Pressure? Do you have or are being treated for high blood pressure?
Yes	No	Body Mass Index more than 35 kg/m ² ?
Yes	No	Age over 50 years old?
Yes	No	Neck size large? (For men, shirt collar more than 17"; for women shirt collar more than 16")
Yes	No	Gender Male?

OSA RISK SCORING

Low risk of OSA: Yes to 0-3 questions with neck size, or 0-3 questions without neck size

High risk of OSA: Yes to 5 or more questions with neck size, or 4 or more questions without neck size

Breaking the Mold in Patient Safety: Moving Forward

- Patients will continue to be screened for known OSA or risk for OSA using the STOP-BANG questionnaire.
- Time-out procedure prior to sedation will include communication of patients found to have OSA or high risk for OSA.
- Patients found to have OSA or high risk for OSA will be monitored with pulse oximetry along with capnography in intra-procedure and recovery phases.

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