

Implementation of the STOP-Bang Questionnaire

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Background

- Obstructive sleep apnea (OSA) is a sleep disorder that has emerged as a major threat to patient safety within the perioperative setting, with an incidence rate of undiagnosed OSA predicted to be as high as 82% in males and 93% in females.
- Annual costs associated with the medical consequences of OSA are estimated to be in the billions of dollars.
- Reliance upon polysomnography, the gold standard for OSA diagnosis, is expensive and impractical when considering the large percentage of surgical patients with high risk for OSA.
- Untreated OSA contributes to an increased rate of perioperative complications which leads to increased healthcare utilization, prolonged hospital lengths of stay, and poor quality outcomes

Tool

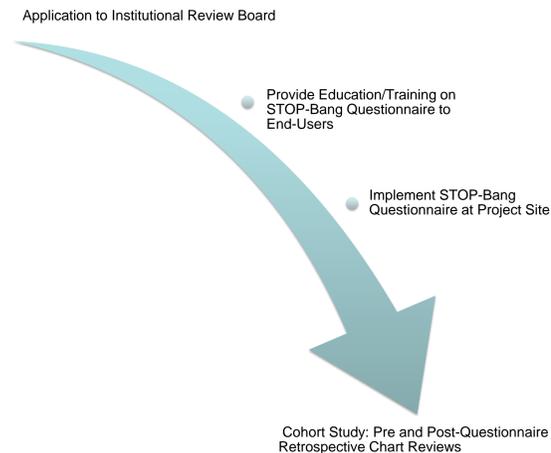
Electronic Nursing Assessment

Interventions	Stop Bang
Assessments	Stop Bang
Questionnaire	Snoring: Do you snore loudly (louder than talking or loud enough to be heard through closed doors)? <input type="radio"/> Yes <input checked="" type="radio"/> No Tired: Do you often feel tired, fatigued, or sleepy during the day? <input type="radio"/> Yes <input checked="" type="radio"/> No Observed: Has anyone observed that you stop breathing during your sleep? <input type="radio"/> Yes <input checked="" type="radio"/> No Blood Pressure: Do you have or are you being treated for high blood pressure? <input type="radio"/> Yes <input checked="" type="radio"/> No BMI more than 35 kg/m ² ? <input type="radio"/> Yes <input checked="" type="radio"/> No Age over 50 years? <input type="radio"/> Yes <input checked="" type="radio"/> No Neck circumference greater than 40 cm? <input type="radio"/> Yes <input checked="" type="radio"/> No Gender, male? <input type="radio"/> Yes <input checked="" type="radio"/> No
Scoring	Risk Score for Obstructive Sleep Apnea: 2

Printed Nursing Assessment Summary

Sleep Apnea Assessment	
Hx Sleep Apnea	No
Currently Using CPAP or BIPAP	No
Risk Score for Obstructive Sleep Apnea	2

Methods

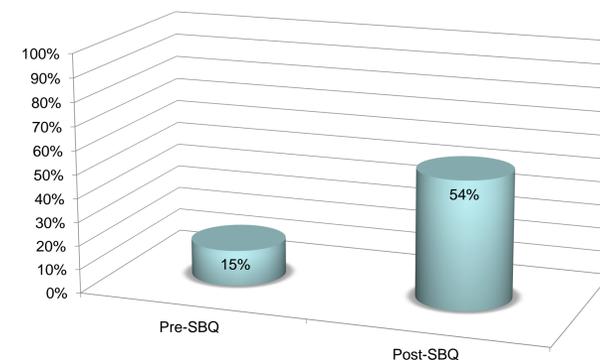


- Prior to the implementation of the SBQ, training related to the the screening questionnaire was provided to all designated end-users, which included anesthesia providers, nursing, and support staff.
- After the training, the SBQ criteria was included in the electronic nursing assessment and utilized for all surgical patients at the project site.
- Retrospective chart reviews were used to collect Post-Anesthesia Care Unit (PACU) length of stay (LOS) and OSA incidence rates in adult patients presenting for laparoscopic abdominal surgeries under general anesthesia. Data was collected and abstracted after utilization of the SBQ for 1 month.

Results

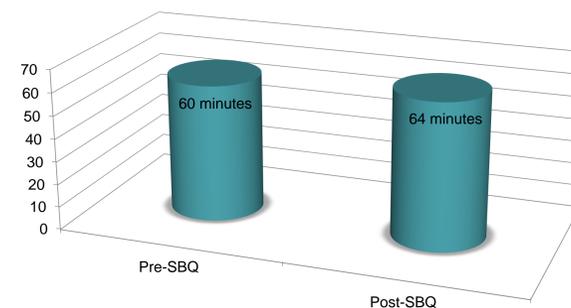
- A total sample size of 104 charts were reviewed, including 52 pre-questionnaire and 52 post-questionnaire charts.
- A statistical difference between the rate of incidence of OSA factors for the two groups was noted ($X^2 = 16.993, p < .001$).
- The rate of incidence for OSA risk factors was 15% in the pre-questionnaire group and 54% in the post-questionnaire group.

Rate of Incidence - OSA Risk Factors



- No statistical difference in PACU LOS was noted between the pre and post-questionnaire groups ($t(102) = -0.772, p = .442$).

PACU LOS



Conclusions

- Use of the STOP-Bang Questionnaire significantly increased the identification rate of OSA risk factors when compared to the pre-questionnaire group.
- Use of the STOP-Bang Questionnaire did not decrease PACU LOS when compared to the pre-questionnaire group.
- Absence of a statistical difference in PACU LOS may have been attributed to the premature suspension of the OSA screening trial due to surgeon concerns.
- The STOP-Bang Questionnaire improves the ability to reliably identify surgical candidates with risk factors for unrecognized OSA, thereby allowing for better patient risk stratification and the formulation of an individualized perioperative management plan.

References

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