Screening for Obstructive Sleep Apnea in Hospitalized Patients Using the STOP-Bang Questionnaire

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Introduction

• Background
• Consequences of Untreated OSA
• STOP-Bang questionnaire
• Data Analysis
• Referral for Sleep Study
Background

- OSA is a common sleep disorder
  - $\frac{1}{4}$ of the population
  - $\frac{1}{4}$ of the population is at risk
  - $90\%$ of the population at risk is undiagnosed
- Undiagnosed OSA reduces life expectancy by 20 years
- Quality of Life
- Correlated with development of multiple co-morbidities
- Direct and indirect costs

Background

• How & when to screen for OSA remains unclear
  
• Several screening tools are available
  – Patient self screening & provider screening
  – STOP Bang screening tool
  
• Treatment is straightforward

Treatment of OSA

- Positive Airway Pressure
- Behavioral strategies
- Oral appliances
- Surgical strategies
- Adjunctive therapies
Sleep related accidents
Purpose Statement

• The purpose of this Quality Improvement project is to assess Registered Nurse compliance in using the STOP Bang screening tool in high risk patients following an educational in-service.
QI Project

- Objectives
  - Perform education and in-services to RN staff
  - Implement screening for OSA
  - Communicate with PCP if patients screen “high”
  - Provide referral to patient for Sleep Study
Theoretical Framework

Initiation: Lack of uniformed screening guidelines in both outpatient & inpatient settings

Review: Screening for sleep related disorders is usually secondary to other health issues

Decision: Education of the nursing staff on the STOP-Bang Questionnaire
Theoretical Framework

- Implementation
- QI Initiative
- Evaluation
- Fully integrate into practice after review of statistics
Literature Review

• Screening for OSA
  – Where vs. population based

• Screening tools
  – Many exist
  – No consensus

• Clinical Practice Guidelines


Literature Review - Screening

Screening of hospitalized patients at high risk of obstructive sleep apnea in general cardiology service

Germaine Loo\textsuperscript{a}, Thet Hein\textsuperscript{a}, Bee-Choo Tai\textsuperscript{b}, See-Meng Khoo\textsuperscript{c}, Mark Y. Chan\textsuperscript{a,c}, Boon-Lock Chia\textsuperscript{a,c}, Mark Richards\textsuperscript{a,c}, Tiong-Cheng Yeo\textsuperscript{a,c}, Chi-Hang Lee\textsuperscript{a,c,*}

Prevalence of undiagnosed obstructive sleep apnea among adult surgical patients in an academic medical center

Kevin J. Finkel\textsuperscript{a}, Adam C. Searleman\textsuperscript{a}, Heidi Tymkew\textsuperscript{a}, Christopher Y. Tanaka\textsuperscript{a}, Leif Saager\textsuperscript{a}, Elika Safer-Zadeh\textsuperscript{a}, Michael Bottros\textsuperscript{a}, Jacqueline A. Selvidge\textsuperscript{a}, Eric Jacobsohn\textsuperscript{b}, Debra Pulley\textsuperscript{a}, Stephen Duntley\textsuperscript{c}, Colleen Becker\textsuperscript{d}, Michael S. Avidan\textsuperscript{a,*}

Creating a Safer Perioperative Environment
With an Obstructive Sleep Apnea Screening Tool

Linda Lakdawala, DNP, RN, CPAN
Clinical Practice Guidelines

Clinical Guideline for the Evaluation, Management and Long-term Care of Obstructive Sleep Apnea in Adults
Adult Obstructive Sleep Apnea Task Force of the American Academy of Sleep Medicine

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
Methods

- Convenience sample
  - RNs working in the Clinical Decision Unit
  - 12 Bed unit located within the Emergency Department
  - Community hospital – 175 beds
Procedures and Data Collection

• Educational In-service
  – Post test & complete a STOP-Bang questionnaire on each other
  – Posters in the employee lounge on awareness of OSA
  – Email reminders to RN staff regarding in-services & implementation of QI project
STOP – Bam?
Data Collection

• Performed screening for OSA for 4 continuous weeks
• Data was logged into Excel and uploaded into SPPS
STOP-Bang Questionnaire

- Snore loudly?
- Tired?
- Observed snoring?
- Blood Pressure?
- BMI?
- Age?
- Neck circumference?
- Gender?
## Demographics

<table>
<thead>
<tr>
<th>N</th>
<th>Age</th>
<th>Gender</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>55</td>
<td>Male 54% Female 46%</td>
<td>31</td>
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</tbody>
</table>
## Stop-Bang Variables

<table>
<thead>
<tr>
<th></th>
<th>Daytime Tiredness</th>
<th>Observed Apnea</th>
<th>Hx HTN</th>
<th>Neck &gt;40 cm</th>
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</thead>
<tbody>
<tr>
<td>50%</td>
<td>13%</td>
<td>60%</td>
<td>43%</td>
<td></td>
</tr>
</tbody>
</table>

- 87% positive screeners
- 70% were provided referrals for a sleep study
Discussion

• 12 bed Observation unit captured a high risk population
• Heightened awareness of OSA & utilization of evidence to support change
Limitations

• Participation by the RN was voluntary
• The screening was not in Meditech
• Polysomnography moving to home testing
Where do we go from here?

• Dissemination of the data
  – Present the data to Hospitalists, Speciality Groups
  – Meet with ENT, Pulmonary & Sleep medicine
  – Publish manuscript
  – Present at meetings

• Implement OSA screening as part of the admission assessment
Summary

• Undiagnosed OSA is associated with a reduced life expectancy
• OSA affects the QOL of the patient and the sleeping partner
• Screening is simple & treatment is straightforward
Questions or Comments

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