SASM
Society of Anesthesia
and Sleep Medicine
~\/\/\/\~

Society of Anesthesia and Sleep Medicine

Annual Meeting

Oct 22-24 2015 San Diego

http://www.sasmhq.org

SASM Guideline Statement: Best Practices for Patients with Known or Suspected Obstructive Sleep Apnea in

the Preoperative Setting

Chair: Frances Chung MBBS, FRCPC
(University of Toronto)

Co-Chair: Dennis Auckley MD
(MetroHealth Medical Center, CWRU)

SASM Best Practices Group

- Najib Ayas MD, MPH   (UBC)
- Nancy Collop MD   (Emory)
- John Fleetham MD   (UBC)
- Peter Gay MD   (Mayo)
- David Hillman MD   (U of W Australia)
- Babak Mokhlesi MD, MSc (U of Chicago)
- Sai Parthasarathy MD   (U of Arizona)
- Eric Kezirian MD, MPH   (USC)
- Frank Wappler MD   (U of Witten)

Best Practices Introduction

- Patient with known or suspected OSA are at increased risk of perioperative complications
- Undiagnosed OSA is frequently picked up at preoperative screening
- PAP therapy may reduce perioperative risk
- Many patients with OSA either refuse or are poorly adherent to PAP therapy
- Literature search was done as described with essentially no direct data (some "extrapolated data" available)

Best Practices Introduction

- This guideline will address Best Practices for these situations using expert opinion where data is lacking

- Caveats:
  - The recommendations are for the preoperative setting
  - The recommendations are primarily meant for anesthesiologist and other immediate preoperative care providers
  - The recommendations focus on PAP therapy as an intervention, though we recognize there are multiple other available therapies

Questions

3.1 What are the best preoperative practices aimed at improving outcomes for surgical patients with OSA who are <u>adherent</u> with PAP therapy?

3.2 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a known diagnosis of OSA but <u>decline or are poorly adherent </u>with PAP therapy?

3.3 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a <u>high probability </u>for OSA

3.1 What are the best preoperative practices aimed at improving outcomes for surgical patients with OSA who are <u>adherent</u> with PAP therapy?

3.1.1 The patient, surgeon, anesthesiologist, and the health care team should be aware prior to the surgery that the patient carries a diagnosis of OSA which may increase morbidity associated with surgery.

- *Grade of Recommendation: Strong*

- *Expert opinion*

3.1 What are the best preoperative practices aimed at improving outcomes for surgical patients with OSA who are <u>adherent</u> with PAP therapy?

3.1.2 We suggest that consideration be given to obtaining the results of the sleep study and the recommended PAP settings prior to surgery.

- *Grade of Recommendation: Weak*

- *Expert opinion*

3.1 What are the best preoperative practices aimed at improving outcomes for surgical patients with OSA who are <u>adherent</u> with PAP therapy?

3.1.3 We suggest additional subspecialty evaluation for preoperative cardiopulmonary optimization be considered in patients who have known OSA and are adherent with PAP therapy but have uncontrolled systemic conditions (i.e. hypoventilation, severe pulmonary HTN, resting hypoxemia of uncertain cause, etc.).

- *Grade of Recommendation: Weak*

- *Expert opinion and some Evidence-based*

OHS and Postoperative Outcomes

- A retrospective review of 194 OSA patients undergoing elective noncardiac surgery identified 112 (57%) as having possible or definite OHS.

- Compared to those with OSA alone, those with OHS and OSA had:
  - More postoperative respiratory failure (OR 10.9 (CI 3.7-32.3))
  - More postoperative heart failure (OR 5.4 (CI 1.9-15.7))
  - More postoperative ICU transfers (OR 3.8 (CI 1.7-38.6))
  - Longer ICU LOS (p=0.009) and hospital LOS (p=0.0008)

  Kaw et al, Chest 2015 epub ahead of print

3.1 What are the best preoperative practices aimed at improving outcomes for surgical patients with OSA who are <u>adherent</u> with PAP therapy?

3.1.4 We suggest that facilities have PAP equipment for perioperative use, or have the patient bring their own PAP equipment with them to the surgical facility.

- *Grade of Recommendation: Strong*

- *Expert opinion*

3.1 What are the best preoperative practices aimed at improving outcomes for surgical patients with OSA who are <u>adherent</u> with PAP therapy?

3.1.5 Patients should continue to wear their PAP device at appropriate times during their stay in the hospital, both preoperatively and postoperatively.

- *Grade of Recommendation: Strong*

- *Evidence-based*

Perioperative PAP Evidence

- Metanalysis of 6 studies (904 patients):
  - Reduced postop AHI (37 +/- 19 vs 12 +/-16), p < 0.001
  - Reduced LOS (4.0+/-4 vs 4.4 +/- 8 days), p=0.05
    <div align="right">Nagappa et al, Anesth Anal 2015</div>
- Manitoba Health Admin database (1987-2008)
  - Undx OSA (n=1571) vs dxed OSA (n=2640) vs low risk (n=16,277)
    - For both undxed and dxed OSA: increased resp complications (OR 2.08)
    - Undxed OSA had increased risk for cardiac complications (OR 2.2), whereas dxed OSA with a CPAP prescription did not (OR 0.75)
      <div align="right">Mutter et al, Anesthesiology 2014</div>
- Michigan Surgical Quality Collaborative (2012-13)
  - 2,646 with dxed or suspected OSA, of which 1,465 untxed
    - Untxed OSA had more cardiopulmonary complications (OR 1.8)
      <div align="right">Abdelsattar et al, Sleep 2015</div>

3.2 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a known diagnosis of OSA but <u>decline or are poorly adherent </u>with therapy?

3.2.1 Same as 3.1.1 - notify health care team.
- *Grade of Recommendation: Strong*

- *Expert opinion*

3.2.2 Same as 3.1.2 - consider obtaining PSG results and PAP settings.
- *Grade of Recommendation: Weak*

- *Expert opinion*

3.2 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a known diagnosis of OSA but <u>decline or are poorly adherent </u>with therapy?

3.2.3 Same as 3.1.3 - consider additional subspecialty preoperative evaluation for uncontrolled systemic conditions.

- *Grade of Recommendation: Weak*

- *Expert opinion and some Evidence-based*

3.2 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a known diagnosis of OSA but <u>decline or are poorly adherent </u>with therapy?

3.2.4 We suggest that these patients may proceed to surgery without further evaluation provided strategies for mitigation of postoperative complications are implemented. The risks and benefits of the decision should include consultation and discussion with the surgeon and the patient.

- *Grade of Recommendation: Weak*

- *Expert opinion*

3.2 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a known diagnosis of OSA but <u>decline or are poorly adherent </u>with therapy?

3.2.5 Same as 3.1.4 - suggest facilities have PAP equipment for perioperative use, or have the patient bring their own.
- *Grade of Recommendation: Strong*

- *Expert opinion*

3.2.6   Same as 3.1.5 - patients should wear their PAP device at appropriate times.
- *Grade of Recommendation: Strong*

- *Expert opinion*

3.3 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a <u>high probability </u>for OSA?

3.3.1 Same as 3.1.1 - notify health care team.
- *Grade of Recommendation: Strong*

- *Expert opinion*

3.3.2 Same as 3.1.3 - consider additional subspecialty preoperative evaluation for uncontrolled systemic conditions.

- *Grade of Recommendation: Weak*

- *Expert opinion and some Evidence-based*

3.3 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a <u>high probability </u>for OSA?

3.3.3 We suggest that these patients may proceed to surgery in the same manner as those with a confirmed diagnosis, provided strategies for mitigation of postoperative complications are implemented. Alternatively they may be referred for further evaluation and treatment. The risks and benefits of the decision should include consultation and discussion with the surgeon and the patient.

- *Grade of Recommendation: Weak*
- *Expert Opinion*

3.3 What are the best preoperative practices aimed at improving outcomes in surgical patients who have a <u>high probability </u>for OSA?

3.3.4 Patients should be advised to notify their primary medical provider that they were found to have a high probability for OSA, so that appropriate referral for further evaluation can be discussed.

- *Grade of Recommendation: Strong*
- *Expert Opinion and Evidence-based*

Formally Diagnosing OSA

- A multitude of studies have shown that diagnosing and treating OSA improves:
  - Quality of life
  - Co-morbidity management
  - Risk of poor cardiovascular outcomes

- In a 2 year follow-up survey study, diagnosing OSA in the preoperative setting, associated with CPAP therapy, was found to:
  - Improve sleep and OSA-related symptoms
  - Decrease medication usage
    Mehta et al, Can J Anaesth 2012