

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

# Management of Surgical Patients with Sleep Apnea: Guidelines

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## Research Questions

1. What are the evidence-based guidelines for preoperative management of surgical patients with known or suspected sleep apnea?
2. What are the evidence-based guidelines for post-operative monitoring and management of surgical patients with known or suspected sleep apnea?

## Key Findings

Two evidence-based guidelines were identified regarding preoperative management of surgical patients with known or suspected sleep apnea while no relevant guidelines were identified regarding post-operative management of surgical patients with suspected or known sleep apnea.

## Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were sleep apnea and surgery. Search filters were applied to limit retrieval to guidelines. The search was also limited to English language documents published between January 1, 2014 and July 16, 2019. Internet links were provided, where available.

## Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

**Table 1: Selection Criteria**

<b>Population</b>	Adult surgical patients with suspected or known sleep apnea in a hospital setting
<b>Intervention</b>	Q1: Preoperative management or assessment by health care professionals (e.g., nurses or doctors) or alarm monitoring/management system Q2: Post-operative management or assessment by health care professionals or alarm monitoring/management system
<b>Comparator</b>	Not applicable
<b>Outcomes</b>	Q1-2: Guidelines
<b>Study Designs</b>	Evidence-based guidelines

## Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Normally, health technology assessment reports, systematic reviews, and meta-analyses are presented first; however, in reports where guidelines are primarily sought, the aforementioned evidence types are presented in the appendix.

Two evidence-based guidelines<sup>1,2</sup> were identified regarding preoperative management of surgical patients with known or suspected sleep apnea while no relevant guidelines were identified regarding post-operative management of surgical patients with suspected or known sleep apnea.

Additional references of potential interest are provided in the appendix.

## Overall Summary of Findings

Two evidence-based guidelines<sup>1,2</sup> were identified regarding preoperative management of surgical patients with known or suspected sleep apnea while no relevant guidelines were identified regarding post-operative management of surgical patients with suspected or known sleep apnea.

The first guideline<sup>1</sup> by the American Thoracic Society recommends the use of enhanced monitoring strategies through algorithms in a preoperative setting to observe patients who are at high risk of sleep apnea undergoing surgery. For instance, the guidelines state that a wireless continuous pulse oximetry/pulse rate monitoring system with direct notifications through a page system may be a strategy to monitor surgical patient with sleep apnea.

The second guideline<sup>2</sup> by the Society of Anesthesia and Sleep Medicine presents recommendations on preoperative screening and assessment of adults with obstructive sleep apnea (OSA). The Society recommends that adult patients at risk for OSA should be identified before surgery with the use of screening tools, such as the STOP-Bang questionnaire, and a variety of checklists.

## References Summarized

### Guidelines and Recommendations

1. Ayas NT, Laratta CR, Coleman JM, et al. Knowledge gaps in the perioperative management of adults with obstructive sleep apnea and obesity hypoventilation syndrome an official American Thoracic Society Workshop report. *Ann Am Thorac Soc*. 2018 Feb;15(2):117-126:  
<https://www.thoracic.org/statements/resources/sleep-medicine/perioperative-mgmt-of-osa-and-ohs.pdf>. Accessed 2019 Jul 29.  
*See: Role of Algorithms in the Perioperative Management of Obstructive Sleep Apnea or Obesity Hypoventilation Syndrome*
2. Chung F, Memtsoudis SG, Ramachandran SK, et al. Society of Anesthesia and Sleep Medicine guidelines on preoperative screening and assessment of adult patients with obstructive sleep apnea. *Anesth Analg*. 2016 08;123(2):452-473.  
[PubMed: PM27442772](https://pubmed.ncbi.nlm.nih.gov/27442772/)

## Appendix — Further Information

### Previous CADTH Reports

3. Pre-operative screening and post-operative monitoring of adults with obstructive sleep apnea: a review of clinical effectiveness and guidelines. (*CADTH rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2014: <https://www.cadth.ca/pre-operative-screening-and-post-operative-monitoring-adults-obstructive-sleep-apnea-review-clinical>. Accessed 2019 Jul 29.
4. Post-operative monitoring equipment in patients with sleep apnea: a review of clinical effectiveness and guidelines. (*CADTH rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2015: <https://www.cadth.ca/post-operative-monitoring-equipment-patients-sleep-apnea>. Accessed 2019 Jul 29.

### Systematic Reviews

#### *Guidelines Not Specified*

5. de Blacam C, Smith S, Orr D. Surgery for velopharyngeal dysfunction: a systematic review of interventions and outcomes. *Cleft Palate Craniofac J*. 2018 03;55(3):405-422.  
[PubMed: PM29437504](#)
6. Tabone LE. Comment on: Noninvasive positive pressure ventilation in the immediatepost-bariatric surgery care of patients with obstructive sleep apnea: a systematic review. *Surg Obes Relat Dis*. 2017 07;13(7):1233-1235.  
[PubMed: PM28462875](#)

#### *Unclear Population*

7. Mandavia R, Mehta N, Veer V. Guidelines on the surgical management of sleep disorders: A systematic review. *Laryngoscope*. 2019 May 1. [Epub ahead of print]  
[PubMed: PM31042014](#)
8. Verse T, Dreher A, Heiser C, et al. ENT-specific therapy of obstructive sleep apnoea in adults: revised version of the previously published German S2e guideline. *Sleep Breath*. 2016 Dec;20(4):1301-1311.  
[PubMed: PM27179662](#)

### Clinical Practice Guidelines – Methodology Not Specified

9. Bailey CR, Ahuja M, Bartholomew K et al. Guidelines for day-case surgery 2019. Guidelines from the Association of Anaesthetists and the British Association of Day Surgery. *Anaesthesia*. 2019 Jun;74(6):778-792:  
[https://anaesthetists.org/Portals/0/Images/Guidelines%20cover%20images/Guideline\\_day\\_case\\_surgery\\_2019.pdf?ver=2019-05-05-075731-563](https://anaesthetists.org/Portals/0/Images/Guidelines%20cover%20images/Guideline_day_case_surgery_2019.pdf?ver=2019-05-05-075731-563). Accessed 2019 Jul 29.  
*See: Page 3*
10. Telem DA, Jones DB, Schauer PR, et al. Updated panel report: best practices for the surgical treatment of obesity. *Surg Endosc*. 2018 Oct;32(10):4158-4164.  
[PubMed: PM29602992](#)

## Additional References

11. Borczynski E, Worobel-Luk P. Capnography monitoring of patients with obstructive sleep apnea in the post-anesthesia care unit: a best practice implementation project. *JBI Database System Rev Implement Rep.* 2019 Jul;17(7):1532-1547.  
[PubMed: PM31305387](#)