

OSA Death and Near-Miss Registry: SASM and AQI Working to Eliminate Preventable Deaths

Norman Bolden, M.D.

Karen L. Posner, Ph.D.

A number of unexpected deaths in patients with obstructive sleep apnea (OSA) were reported in the late 20th and the early 21st century. In 1997, Ostermeier et al. shared three cases of postoperative respiratory arrests and deaths in patients with OSA receiving opioids following surgery.¹ In a 2002 Anesthesia Patient Safety Foundation newsletter, Lofsky summarized eight cases of unexplained postoperative cardiopulmonary arrest in patients with OSA receiving narcotics.² Subsequently, in 2005, Bolden et al. published a case series of cardiopulmonary arrests in OSA patients receiving narcotics following surgery.³ While there have been numerous recent studies documenting adverse outcomes in OSA patients following surgery, there have been very few reports of postoperative deaths in this cohort of patients in recent years.

Since unexpected deaths occurring in OSA patients following surgery were previously documented and dominated the headlines in the anesthesia community, it is possible that these events (unexplained/unexpected deaths) are likely no longer viewed as “novel” or “interesting” by editorial boards. Indeed, in response to previous reports of catastrophic outcomes in patients with OSA receiving postoperative narcotics, the American Academy of Sleep Medicine and ASA published guidelines advocating close monitoring of patients with OSA following surgery.^{4,5} Given the paucity of reported unexplained postoperative deaths appearing in the medical literature over the last decade for OSA patients, the average practitioner might easily surmise that unexpected death in the OSA patient population is no longer a problem. This assumption however, would clearly be in error.

The Society of Anesthesia and Sleep Medicine (SASM) was formed in 2010 by a group of physician anesthesiologists, sleep physicians, surgeons and basic scientists with an interest in sleep and anesthesia. The mission of SASM is to promote discussion, education and research related to issues in sleep and anesthesia.⁶

At an informal gathering of conference attendees following the 2011 SASM annual meeting, discussions abounded detailing ongoing catastrophic events occurring in OSA patients following surgery. Members of SASM approached the SASM leadership and expressed concern that there was little awareness in the general medical community that these unexpected catastrophic events, where patients were found “dead in bed,” were continuing to occur. As a result, the SASM board established the “Dead in Bed” Registry Committee and appointed Norman Bolden, M.D. as its chair.

Discussions and deliberations by the SASM “Dead in Bed” committee noted that there were a number of cases where patients did not expire but were left with a devastating neurologic injury. Additionally, there were cases where patients were found in cardiopulmonary arrest but were successfully resuscitated. There was much to learn from the postoperative “near misses” occurring in diagnosed and suspected OSA patients as well as the unexpected deaths. Thus, the name of the registry was subsequently changed to the OSA Death and Near Miss Registry.*

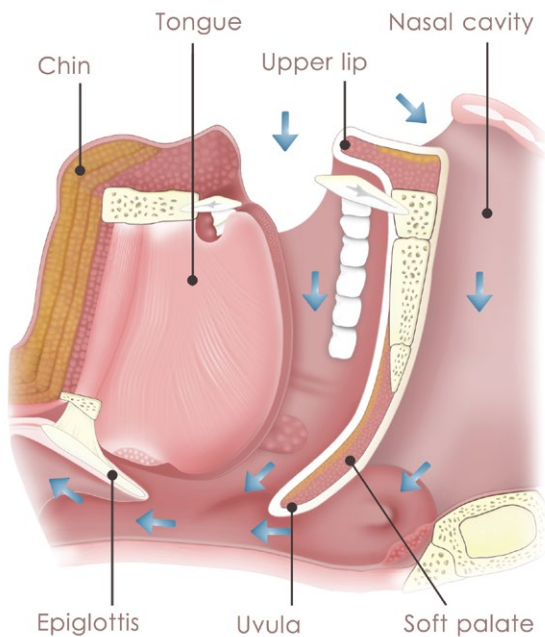
SASM partnered with the Anesthesia Quality Institute (AQI) and welcomed the expertise of those responsible for the Anesthesia Closed Claims Project and its registries in



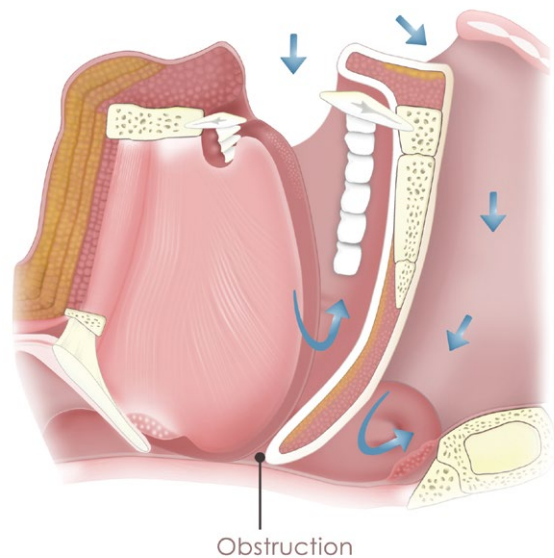
Norman Bolden, M.D. is Associate Professor, Case Western Reserve University, Vice Chairman, Department of Anesthesiology, MetroHealth Medical Center, Cleveland.



Karen L. Posner, Ph.D. is Research Professor, Department of Anesthesiology and Pain Medicine, University of Washington, Seattle.



Open airway during sleep



Sleep apnea present with obstruction

advancing the OSA Death and Near Miss Registry. The registry began accepting cases in May 2014. The OSA Death and Near Miss Registry hopes to collect a large number of detailed case reports for analysis. The goals are to identify common themes or factors associated with OSA-related adverse postoperative events, including:

- Identify the level of monitoring used when deaths or near-misses occurred.
- Provide a better understanding into why the adverse events occurred and what (if anything) can be done to limit these adverse events.
- Provide insight regarding how to best construct prospective studies to answer many of the questions surrounding the best practices for care of patients with OSA during the perioperative period.

Inclusion criteria for the registry include: Age 18 or greater, diagnosed or suspected OSA, and one of the following events/outcomes must have occurred and felt to be an OSA-related adverse event: death, brain injury, urgent/emergent transfer to ICU for respiratory distress, respiratory arrest, code blue or ACLS protocol (within 30 days of surgery). Retrospective cases may be submitted as long as they occurred in 1993 or later.

To submit anonymous cases or obtain more information about the OSA Death and Near Miss Registry, please go to www.asaclosedclaims.org and click on the tab for projects. Specific questions about the registry can be forwarded to Karen Posner, Ph.D. at the Department of Anesthesiology & Pain Medicine, University of Washington, Box 356540, Seattle, WA 98195-6540; email posner@uw.edu.

References:

1. Ostermeier AM, Roizen MF, Hautkappe M, Klock PA, Klafta JM. Three sudden postoperative respiratory arrests associated with epidural opioids in patients with sleep apnea. *Anesth Analg.* 1997;85(2):452-460.
2. Lofsky A. Sleep apnea and narcotic postoperative pain medication: a morbidity and mortality risk. *APSF News.* Summer, 2002;17(2):24-25
3. Bolden N, Smith CE, Auckley D. Avoiding adverse outcomes in patients with obstructive sleep apnea: development and implementation of a perioperative OSA protocol. *J Clin Anesth.* 2009;21(4):286-293.
4. Meoli AL, Rosen CL, Kristo D, et al.; Clinical Practice Review Committee, American Academy of Sleep Medicine. Upper airway management of the adult patient with obstructive sleep apnea in the perioperative period - avoiding complications. *Sleep.* 2003;26(8):1060-1065.
5. American Society of Anesthesiologists Task Force on Perioperative Management of Patients with Obstructive Sleep Apnea. Practice guidelines for the perioperative management of patients with obstructive sleep apnea. *Anesthesiology.* 2014;120(2):268-286.
6. Chung F, Hillman D, Lydic R. Sleep medicine and anesthesia: a new horizon for Anesthesiologists. *Anesthesiology.* 2011;114(6):1261-1262.

*The Society of Anesthesia and Sleep Medicine (SASM) Obstructive Sleep Apnea Death and Near Miss Registry Committee members include, Norman Bolden, M.D. (Chair), Dennis Auckley, M.D., Kenneth L. Bachenberg, M.D., Jonathan Benumof, M.D., Frances Chung, M.B.B.S., David Hillman, M.D., Frank Overdyk, M.D., Satya Krishna Ramachandran, M.D. and David Samuels, M.D. There are also two members from the AQI: Karen Domino, M.D., M.P.H. and Karen L. Posner, Ph.D.