



SLEEP APNEA AND SAME-DAY SURGERY

It is well known that sleep apnea* can be a complicating factor in the administration of general anesthesia. It is also known that when the anesthesiologist is aware of the sleep apnea in the patient undergoing surgery and takes appropriate measures to maintain the airway, the risks of administering anesthesia to people with sleep apnea can be minimized.

Although there have been no clinical trials on anesthesia in sleep apnea patients, clinical experience confirms that anesthesia can be problematic in these patients. The cause of potential problems is seen in an anatomic and physiologic understanding of sleep apnea: the syndrome of obstructive sleep apnea is characterized by repetitive episodes of upper airway obstruction during sleep. ("Apnea" literally means "without breath" and is clinically defined as a cessation of breath that lasts at least ten seconds.) Sleep apnea may be accompanied by sleep disruption and arterial oxygen desaturation.

General anesthesia suppresses upper airway muscle activity, and it may impair breathing by allowing the airway to close. Anesthesia thus may increase the number of and duration of sleep apnea episodes and may decrease arterial oxygen saturation. Further, anesthesia inhibits arousals which would occur during sleep. Attention to sleep apnea should continue into the post-operative period because the lingering sedative and respiratory depressant effects of the anesthetic can pose difficulty, as can some analgesics.

Given the nature of the disorder, it may be fitting to monitor sleep apnea patients for several hours after the last dose of anesthesia and opioids or other sedatives, longer than non-sleep apnea patients require and possibly through one full natural sleep period. Hence there is concern that same-day surgery (also known as out-patient or ambulatory surgery) may not be appropriate for some sleep apnea surgery patients.

Before surgery, the anesthesiologist should first conduct a thorough preoperative assessment (including history of anesthesia) and physical examination. The use of preoperative sedatives must be considered carefully as sedative medication, like anesthesia, suppresses upper airway muscle activity. During surgery, maintaining the patency of the airway is the anesthesiologist's primary concern.

The period of awakening from anesthesia after surgery can also be problematic for sleep apnea patients. In patients who have undergone surgery to treat sleep apnea, the airway can be narrowed from swelling and inflammation. There may also be some upper airway swelling secondary to intubation and extubation. As mentioned, the lingering sedative and respiratory depressant effects of the anesthetic can pose difficulty. If narcotics are found to be necessary in the post-operative period, appropriate monitoring of oxygenation, ventilation, and cardiac rhythm should be provided as narcotic analgesics can precipitate or potentiate



apnea that may result in a respiratory arrest. Perioperative vigilance must continue into the postoperative period.

Many patients require postoperative intubation and mechanical ventilation until fully awake. Patients who already use a prescribed CPAP (Continuous Positive Airway Pressure) machine should utilize it, but the pressure should be monitored to ascertain that it is adequate. CPAP can also be employed postoperatively in other patients without their own machine to support breathing. For certain patients, it may be judicious to admit them to an intermediate care or intensive care area postoperatively to facilitate close monitoring and airway support measures.

Therefore it is deemed wise to let sleep apnea patients remain in the care of medical personnel until it can be ascertained that their breathing will not be obstructed. While sleep apnea patients may require a longer period of time in the care of medical personnel than would otherwise be required of the surgical procedure, this precaution is prudent and enables anesthesiologists to provide safe anesthetic care for sleep apnea patients.

Approved by the ASAA Board of Directors June, 1999.

It should be remembered that **the overwhelming majority of sleep apnea cases have not been identified**. Thus it is not sufficient simply to ask if a patient has sleep apnea. Instead, health care professionals must ask proper screening questions of their patients, especially those individuals at risk for sleep apnea and those children undergoing a tonsillectomy and adenoidectomy, before making decisions on patient care.