QUEEN'S UNIVERSITY
DEPARTMENT OF ANESTHESIOLOGY
AND PERIOPERATIVE MEDICINE

SUBJECT:	Guidelines for the Perioperative Care of Adult Obstructive Sleep Apnea Patients	PAGE	1 of 3
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Introduction:

Patients with Obstructive sleep apnea (OSA) are at increased risk of complications including:

- Morbid obesity and other co-morbid diseases
- Hypertension, hypoxemia, hypercarbia, polycythemia, and cor pulmonale
- Increased risk of difficult intubation
- Increased sensitivity to sedative and analgesic medications
- At risk for postoperative apnea, desaturation, and cardiac dysrhythmias

Guidelines:

1. Preoperative Management of Adult Sleep Apnea Patients:

   1.1 The Pre-Surgical Screening (PSS) nursing staff will include screening questions about sleep apnea in their preoperative evaluation.
   1.2 Patients with symptoms of sleep apnea syndrome (snoring, witnessed apnea, daytime hypersomnolence, morning headache, BMI > 35) that have not had a sleep study should be assessed by an anesthesiologist preoperatively to determine if a sleep study is required prior to surgery.
   1.3 If a patient has been diagnosed with OSA, a copy of the most recent sleep study should be included in the PSS package.
   1.4 The PSS nurses will notify the surgeon and the OR booking office of OSA patients scheduled for surgery so appropriate arrangements can be made for their postoperative care.
   1.5 OSA patients should use their CPAP regularly in the preoperative period.

2. Perioperative Management of Adult Sleep Apnea Patients:

   2.1 Surgical patients using nasal CPAP must bring their machine with them to the hospital on the day of surgery.
   2.2 The anesthesiologist should anticipate the possibility of a difficult airway for patients with diagnosed or suspected OSA.
   2.3 The use of long-acting sedative premedication should be avoided.
   2.4 The use of local anesthesia, peripheral nerve blocks, neuraxial anesthesia and non-opioid analgesics should be considered.
   2.5 CPAP should be administered as soon as feasible after surgery and used for all rest / sleep periods for at least 24 hrs.
   2.6 Patients suspected of having undiagnosed severe OSA should be considered for empiric treatment with CPAP (pressure adjusted by auto-titration) and a respirology consult.

3. Postoperative Monitoring

3.1. All patients with known or suspected OSA will have continuous oximetry monitoring for at least 4 hours postoperatively.
3.2. All OSA patients treated with oral appliance or CPAP should wear their device during all rest / sleep periods for 24 hours postoperatively.
3.3. After 4 hours of monitoring and before discharge home or to an unmonitored bed, patients must be assessed by an anesthesiologist.

4. Criteria for Discharge Home for Adult Patients with OSA

4.1. Patient meets the standard discharge criteria for home-readiness.
4.2. Patient is monitored for at least 4 hours after surgery.
4.3. Patient is assessed by anesthesiologist prior to discharge home.
4.4. The patient's room air SpO2 must be similar to preoperative value.
4.5. Patient had no episodes of hypoxemia (SpO2 < 90%) on room air when left undisturbed.
4.6. Patient had no episodes of apnea or airway obstruction.
4.7. Patient is willing and able to wear their CPAP for all sleep and rest periods.
4.8. Pain is controlled with non-opioid or low dose oral opioid medication.
4.9. The surgical procedure not associated with postoperative airway edema (e.g. uvulopalatopharyngoplasty, radical neck dissection etc)

5. Criteria for Discharge to an Unmonitored Bed for Adult Patients with OSA

5.1. Patient meets the standard discharge criteria for PACU discharge.
5.2. Patient is monitored for at least 4 hours after surgery.
5.3. Patient is assessed by anesthesiologist prior to discharge to unmonitored bed.
5.4. .Patient had no episodes of hypoxemia (SpO2 < 90%) on room air when left undisturbed
5.5. Patient had no episodes of apnea or airway obstruction.
5.6. Patient is willing and able to wear their CPAP for all sleep and rest periods.
5.7. Pain controlled with non-opioid or low dose oral opioid medication.
5.8. The surgical procedure not associated with postoperative airway edema (e.g. uvulopalatopharyngoplasty, radical neck dissection etc).

6. Criteria for Remote Oximetry Monitoring for Adult Patients with OSA

6.1. Patient meets criteria for discharge from the PACU
6.2. Written order for continuous remote oximetry monitoring overnight to be reassessed by the service in the morning.
6.3. Patient is not willing or able to wear their CPAP postoperatively
6.4. Patient requires intravenous or high dose oral opioid analgesics
6.5. Patient received long-acting neuraxial opioid analgesics (e.g. epimorph)
6.6. Patient had a surgical procedure suitable for discharge to ward bed.

7. Criteria for Monitoring in Enhanced Care Unit (ECU) for Adult Patients with OSA

7.1. Patient meets criteria for discharge from PACU
7.2. Patient has other medical conditions / surgical procedure that requires ECU admission.

Appendix1: PSS Patient Assessment

For patients seen in the Anesthesia Consult Clinic:

- The Anesthesiologist will assess:
  - Symptoms of OSA – snoring, excessive tiredness, observed apneas, HTN
  - Refer for sleep study if significant symptoms of OSA (elective surgery) or monitor and treat assuming the patient has OSA (urgent surgery)
  - Determine severity of OSA and compliance with the recommended treatment
  - Emphasize the importance of treatment for noncompliant patients
  - Type of surgery
  - Determine the anticipated anesthetic technique and opioid requirements
- The Anesthesiologist will complete the "Anesthesia Consult Summary Form" to indicate the anticipated postoperative monitoring requirements which will be faxed to the surgeon's office.

For patients not seen in the Anesthesia Consult Clinic:

- The PSS nurse will assess the patient and:
  - Identify patients with a diagnosis of OSA
  - Obtain further details of about their OSA using the secondary questions
  - Obtain a copy of the patient's sleep study
  - Determine the patient's compliance with the recommended treatment
  - Emphasize the importance of treatment for noncompliant patients

  For HDH patients:
    - Notify the patient that they may need to stay overnight
    - Confirm the patient will bring the oral appliance or CPAP machine to hospital
    - Notify the surgeon's office that the patient may require an overnight stay in EPACU

  For KGH patients:
    - Give the PSS package with a copy of the sleep study and the PSS-OSA patient assessment form to the anesthesiologist working in the PSS clinic.
    - Fax the completed PSS-OSA assessment form to the surgeon's office

- The Anesthesiologist working in the clinic will:
  - Review the sleep study
  - Determine the severity of the OSA (assume moderate if study not available)
  - Identify the anticipated anesthetic technique and opioid requirements
  - Determine the likely postoperative monitoring requirement for OSA
  - Complete the PSS – OSA Patient Assessment Form with a recommendation of the anticipated postoperative monitoring requirements.