

University Health Network Policy & Procedure Manual Clinical – Perioperative Management of Obstructive Sleep Apnea

Policy

University Health Network (UHN) is committed to ensuring that patients diagnosed with, or suspected of having, [obstructive sleep apnea \(OSA\)](#) receive quality and safe care through screening and optimal perioperative management.

Routine practices for infection prevention and control are required, as per [Routine Practices](#) policy 4.20.001.

Definitions

Apnea-Hypopnea Index (AHI) score: The number of [respiratory events](#) per hour of sleep in an overnight sleep study. The severity of OSA may be classified based on the AHI score.

- **Mild OSA:** AHI score of 5 to less than 15
- **Moderate OSA:** AHI score of 15 to less than 30
- **Severe OSA:** AHI score of 30 or greater

Clinical Anesthesia Information System (CAIS): CAIS is a comprehensive, evidenced-based preoperative assessment tool used in the preadmission clinic that aids in clinical decisions and effectively communicates patient's preoperative risk factors to the multidisciplinary team. The CAIS report can be found on the patient's home page in the electronic patient record (EPR).

Continuous oxygen supplementation therapy: Considered a medical intervention necessary for patients to prevent hypoxemia. Continuous oxygen supplementation is required until the patient is able to maintain their baseline oxygen saturation while breathing on room air. (Refer to [Oxygen Therapy](#) policy 12.30.001 for specific guidelines.)

Obstructive sleep apnea (OSA): The repetitive partial or complete upper airway obstruction characterized by episodes of breathing cessation during sleep lasting 10 or more seconds. The repeated airway obstruction during sleep causes repeated arousals and increased sympathetic response, resulting in excessive daytime sleepiness, memory loss and other cognitive and psychological disturbances. (Refer to the [Obstructive Sleep Apnea Information Sheet](#) for prevalence of OSA).

Oximetry monitored bed: Any inpatient bed with continuous SpO₂ monitoring.

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Respiratory events: Can include any of the following recurrent episodes within a 60 minute period:

- bradypnea (respirations less than 8 per minute)
- desaturation (SpO₂ less than 90%)
- apnea (cessation of breathing greater than 10 seconds)
- pain-sedation mismatch (high pain score on a Visual Analogue Pain Scale with high level of sedation)
- hypopnea (reduced airflow with desaturation of 4% or more)

Vital signs: The physiological parameters that reflect key body processes, including temperature, blood pressure, heart rate, respiratory rate and oxygen saturation.

Procedure

Preadmission Clinic

1. Screen patient to determine risk factors for [OSA](#) using a validated tool such as the STOP-Bang Scoring Model. (Refer to the [Obstructive Sleep Apnea Information Sheet](#).)
 - If the patient has confirmed [OSA](#) or has a STOP-Bang score of 5 or greater, generate an alert by documenting these findings in the [Clinical Anesthesia Information System \(CAIS\)](#).
2. Determine if the patient has had a sleep study. If so:
 - obtain results
 - obtain the [AHI score](#)
3. Determine if the patient presently uses a positive airway pressure (PAP) device.
 - Instruct the patient to bring their PAP device with them if they are undergoing a same day admit procedure.
4. Assess the need for an overnight stay for Day Surgery patients with known moderate to severe [OSA](#) or with a high clinical suspicion of [OSA](#) and comorbid conditions cannot be optimized or postoperative opioids are required.
5. Consider referral to a sleep medicine physician for patients with:
 - a high clinical suspicion of [OSA](#) with cardiopulmonary compromise
 - a suspicion of obesity hypoventilation syndrome

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6. Provide health teaching for known or suspected [OSA](#) patients and family.
 - Provide the OSA patient education pamphlet, [What you Need to Know about Sleep Apnea and Surgery](#) (Form D-5936).

Preoperative Care Unit (POCU)

1. Verify that the PAP machine is with the patient on admission and label machine with the patient's demographics.

Note: Notify the anesthesia assistant (AA) and/or registered respiratory therapist (RRT) if the patient is on PAP but has not brought the device.
2. Notify the RRT and/or AA to collect the patient's PAP machine, as per [Ventilatory Support](#) policy 12.80.001.
3. The RRT obtains a [Release of Liability/Waiver: Use of Patient-Owned Bipap/CPAP at UHN](#) (form D-2056), as per [Ventilatory Support](#) policy 12.80.001.

Post Anesthetic Care Unit (PACU)

1. Position semi-upright or lateral if the patient's condition permits.

Note: Avoid flat position.
2. Administer [continuous oxygen supplementation therapy](#) as per [Oxygen Therapy](#) policy 12.30.001.
3. Consult with the anesthesiologist and AA/RRT to assess any need for PAP therapy and/or additional monitoring if [respiratory events](#) occur.
4. Monitor patients diagnosed with [OSA](#), or suspected [OSA](#) that have received general anaesthesia and neuraxial opioids, without disturbance for an additional 1 hour for significant [respiratory events](#) after PACU Aldrete discharge criteria are met.
5. If the PACU discharge criteria are met, discharge the patient from PACU to an inpatient unit.
 - Patients with confirmed [OSA](#) or suspected [OSA](#), who have not experienced [respiratory events](#) while in the PACU: Discharged to an in-patient bed.
 - Patients with [OSA](#) or suspected OSA, who have had significant [respiratory events](#) or cardiopulmonary compromise while in the PACU: Admit to an [oximetry monitored bed](#).

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Note: Patients diagnosed with [OSA](#) or with a high clinical suspicion of [OSA](#) should be assessed (whether they have or have not experienced a [respiratory event](#)) by Anesthesia prior to discharge from PACU.

6. Patients at Princess Margaret Hospital (PMH) who do not meet the discharge criteria will be transferred to Toronto General Hospital (TGH) for further monitoring as per the established [Transfer of Surgical Patients from Princess Margaret Cancer Center to Toronto General Hospital algorithm](#) and [Transporting Patients](#) policy 3.30.012.

Surgical Inpatient Units

1. Position semi-upright or lateral if the patient's condition permits.

Note: Avoid flat position.

2. Assess respiratory status:

- For patients who have **not** experienced any [respiratory events](#) while in PACU, follow unit protocols and/or physician's orders for post-operative [vital signs](#) monitoring.
- For patients who have experienced [respiratory events](#) while in PACU and who are unable to maintain their baseline oxygen saturation while breathing on room air:
 - a. admit to an [oximetry monitored bed](#);
 - b. administer [continuous oxygen supplementation](#) as per [Oxygen Therapy](#) policy 12.30.001; and,
 - c. initiate continuous SpO₂ monitoring immediately.

3. Notify the RRT of the patient's arrival if:

- the patient had a [respiratory event](#)
- the patient has a PAP device from home
- the patient requires PAP therapy but did not bring a device

4. Upon patient arrival on the unit, the:

- RRT sets up patient or hospital provided PAP device
- RRT provides in-service to the registered nurse(s) (RN) as required
- RRT provides patient education

5. Ensure PAP therapy is on if the patient is:

- drowsy or getting ready to sleep
- experiencing any [respiratory event](#)

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6. Consult with the surgical resident, RRT or Critical Care Response Team (CCRT) and Anesthesia for any patient experiencing significant [respiratory events](#).
7. Prepare patients who are not currently on SpO₂ monitoring for possible admission to an [oximetry monitored bed](#) or interfacility transfer from PMH to TGH, as per the [Transfer of Surgical Patients from Princess Margaret Cancer Center to Toronto General Hospital algorithm](#) and [Transporting Patients](#) policy 3.30.012.

Note: For PMH patients who have experienced a respiratory event on an inpatient unit, consult with the surgeon for an interfacility transfer. If patient acuity is deemed critical, contact ACCESS (refer to [Escalation for Patients with Deteriorating Clinical Status](#) policy 3.30.031) and prepare to transfer to Mount Sinai Hospital's ICU as per [Transporting Patients](#) policy 3.30.012.

8. Monitor oxygen saturation for the first 24 hours for patients with a [respiratory event](#) monitor using an [oximetry monitored bed](#).
 - For patients with no [respiratory event](#), include oxygen saturation as part of the unit protocols for routine post-operative vital signs assessment.
 - Reassess the need for further monitoring at 24 hours.
9. Use caution in administering narcotic analgesics and antiemetic agents.

Note: Limit the administration of opioids and sedative agents.

10. Provide written (OSA patient education pamphlet, [What you Need to Know about Sleep Apnea and Surgery](#) (Form D-5936)) and oral post-operative health education for the patient and family.

Day Surgery Unit

1. Position semi-upright or lateral if the patient's condition permits.

Note: Avoid flat position.

2. Monitor O₂ saturation and [respiratory events](#) for all patients with sleep apnea until discharge.

- If the patient is unable to maintain their baseline oxygen saturation while breathing on room air, administer [continuous oxygen supplementation](#) as per [Oxygen Therapy](#) policy 12.30.001.

3. Use caution in administering narcotic analgesics and antiemetic agents.

Note: Limit administration of opioids and sedative agents.

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4. Provide written (OSA patient education pamphlet, [What you Need to Know about Sleep Apnea and Surgery](#) (Form D-5936)) and oral post-operative health education for the patient and family.
5. Notify the most responsible physician if a patient with known moderate to severe [OSA](#) or a high clinical suspicion of moderate to severe OSA has developed any recurrent [respiratory events](#) while in the Day Surgery Unit.
6. Consult with the surgical resident or most responsible physician for possible admission to an [oximetry monitored bed](#) or interfacility transfer from PMH to TGH as per the [Transfer of Surgical Patients from Princess Margaret Cancer Center to Toronto General Hospital algorithm](#) and [Transporting Patients](#) policy 3.30.012.

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