

GUIDELINES & PROTOCOLS

ADVISORY COMMITTEE

Sleep Apnea – Assessment and Management of Obstructive Sleep Apnea in Adults

Effective Date: July 1, 2005

Scope

This guideline applies to adult patients with suspected Obstructive Sleep Apnea (OSA).

RECOMMENDATION 1: History

An accurate patient history, including corroboration from the bed partner, and a physical examination, paying particular attention to the head and neck, are crucial first steps in the diagnosis of OSA. All patients should be questioned specifically about daytime sleepiness and the patient should complete the Epworth Sleepiness Scale (see insert). If significant daytime sleepiness is present, the patient should be referred to an appropriate specialist with an interest in sleep disorders.

RECOMMENDATION 2: Testing

Patients without excessive daytime sleepiness should have overnight home oximetry to assist in excluding clinically important OSA. In general, if the patient does not have significant daytime sleepiness and has normal overnight oximetry, clinically significant OSA can be effectively ruled out. It should be noted, however, that the patient's clinical status may change with either increasing weight gain, use of sedatives or alcohol at nighttime. If overnight home oximetry is abnormal, the patient should be referred to an appropriate specialist with an interest in sleep disorders.

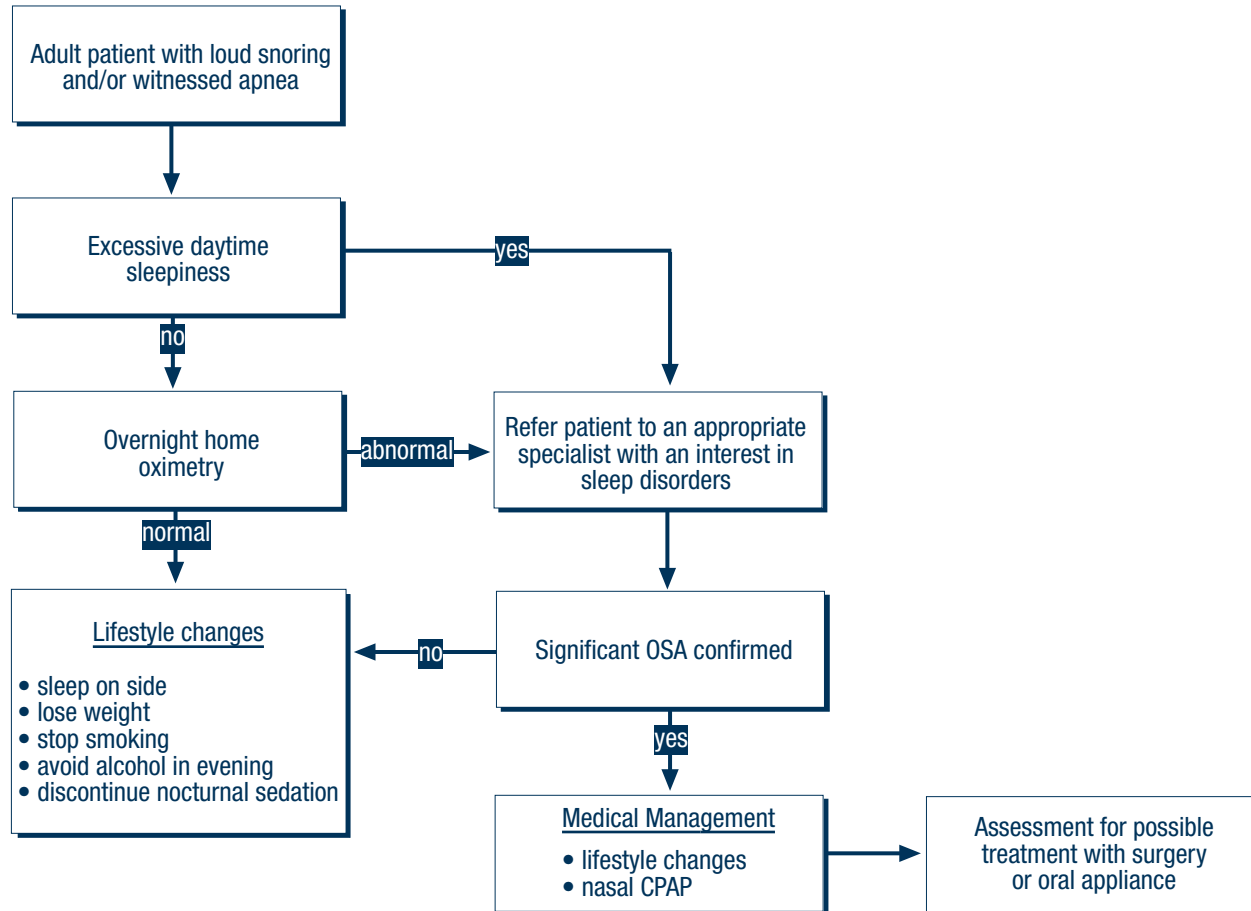
RECOMMENDATION 3: Management

Medical management is generally the initial treatment for OSA. This may include lifestyle changes and a trial of nasal continuous positive airway pressure (nasal CPAP) therapy. Alternatives include oral appliance and surgical procedures in carefully selected patients.

RECOMMENDATION 4: Surgical Management

Obstructive lesions of the upper airway such as grossly enlarged tonsils or oropharyngeal tumours may be treated surgically. Surgery to improve nasal patency is rarely effective for OSA but may allow improved compliance with nasal CPAP. Uvulopalatopharyngoplasty has been approved for Medical Services Plan (MSP) payment when recommended by an otolaryngologist, after confirmation that the patient has had a polysomnogram from an accredited service confirming symptomatic OSA and the patient cannot use nasal CPAP and is not considered suitable for an oral appliance.

Assessment and management of obstructive sleep apnea



Rationale

Obstructive sleep apnea (OSA) is a disorder characterized by partial or complete obstruction of breathing during sleep associated with recurrent arousals and awakenings, consequent daytime sleepiness, and impaired vigilance and memory.

The most common symptom of OSA is excessive daytime sleepiness, which can be assessed using the Epworth Sleepiness Scale. A score of 10 or higher suggests clinically significant daytime sleepiness although a lower score does not exclude it. Other symptoms and signs of OSA are listed in the table below. Associated risk factors are obesity with a large neck size, and craniofacial abnormalities. Systemic hypertension, nocturnal arrhythmias and right heart failure are all more common in patients with OSA.

Symptoms and signs of obstructive sleep apnea

Symptoms	Signs
Loud snoring Excessive daytime sleepiness Choking/gasping during sleep Unrefreshing sleep Daytime fatigue Impaired concentration Family history of obstructive sleep apnea	Obesity (particularly upper body) Mandibular/maxillary hypoplasia (receding chin) Crowding of the oropharynx Large tonsils or tongue Nasal and nasopharyngeal obstruction

An accurate history, including corroboration from the bed partner, and a physical examination are crucial first steps in the diagnosis of OSA. In patients whose only symptoms are loud snoring and/or witnessed pauses in breathing during sleep, overnight home oximetry can be used to exclude clinically important OSA. If the overnight home oximetry test is normal, further testing is usually not required. Reevaluation is needed if the problem persists. These patients should be encouraged to sleep on their side, lose weight, stop smoking and reduce alcohol consumption especially within four hours of bedtime and avoid unnecessary sedating medications. Patients need to be assessed clinically for the presence of upper airway obstruction and an otolaryngological opinion may be indicated to exclude significant disorders of the upper airway.

If overnight home oximetry is abnormal or when other symptoms suggest OSA, the patient should be referred to an appropriate specialist with an interest in sleep disorders.

Once OSA has been diagnosed and its severity has been assessed, treatment options are considered. Medical management is generally the first approach and includes lifestyle changes and nasal CPAP. Nasal CPAP consists of a blower providing pressurized airflow via a nasal mask. It is effective in preventing OSA when set at the correct pressure. It is tolerated by most patients on a long-term basis. Surgical treatments and oral appliances may be useful for patients with OSA who cannot tolerate nasal CPAP.

Surgical treatments can be reviewed by an otolaryngologist with a special interest in OSA. Oral appliance treatment can be reviewed by a dental practitioner with a special interest in oral appliance therapy.

Once the diagnosis of OSA is established periodic long-term follow-up is important to monitor the patient's symptoms and response to and compliance with treatment. Patients with OSA may be prone to drowsiness while driving. Physicians caring for these patients should be familiar with the British Columbia Medical Association's *Guide for Physicians in Determining Fitness to Drive a Motor Vehicle*.

Access to diagnosis and treatment for sleep apnea in British Columbia is on a par with other provinces in Western Canada. A recent review confirms that polysomnography remains the standard for the evaluation of sleep apnea.

References

1. Canadian Coordinating Office for Health Technology Assessment. The Treatment of Obstructive Sleep Apnea: An Overview. Technology Brief. Issue 8.0, December 1995.
2. Chesson AL Jr, Ferber RA, Fry JM, Grigg Damberger M, Hartse KM, Hurwitz TD, et al. The indications for polysomnography and related procedures. *Sleep* 1997;20:423-87.
3. Indications and standards for use of nasal continuous positive airway pressure (CPAP) in sleep apnea syndromes. American Thoracic Society. Official statement adopted March 1994. [published erratum appears in *Am J Respir Crit Care Med* 1995;151(2 Pt 1):578]. *Am J Respir Crit Care Med* 1994;150(6 Pt 1):1738-45.
4. Practice parameters for the indications for polysomnography and related procedures. Polysomnography Task Force, American Sleep Disorders Association Standards of Practice Committee. *Sleep* 1997;20:406-22.
5. Practice parameters for the treatment of snoring and obstructive sleep apnea with oral appliances. American Sleep Disorders Association. *Sleep* 1995;18:511-3.
6. Flemons WW, Douglas NJ, Kuna ST et al. Access to diagnosis and treatment of patients with suspected sleep apnea. *Am J Respir Crit Care Med* 2004; 169:668-672.
7. Flemons WW. Obstructive sleep apnea. *N Engl J Med* 2002; 347:498-504.

Sponsors

This guideline was developed by the Guidelines and Protocols Advisory Committee. It was approved by the British Columbia Medical Association and adopted by the Medical Services Commission.

Partial funding was obtained from the Primary Health Care Transition Fund.

Revised Date: April 1, 2007

This guideline is based on scientific evidence current at the time of the review date.

Guidelines and Protocols Advisory Committee
PO Box 9642 STN PROV GOVT
Victoria BC V8W 9P1

Phone: (250) 952-1347
Fax: (250) 952-1417

E-mail: hlth.guidelines@gov.bc.ca
Web site: BCGuidelines.ca

The principles of the Guidelines and Protocols Advisory Committee are:

- to encourage appropriate responses to common medical situations
- to recommend actions that are sufficient and efficient, neither excessive nor deficient
- to permit exceptions when justified by clinical circumstances.

Epworth Sleepiness Scale

How likely are you to doze off or fall asleep in the situations described in the box below, in contrast to feeling just tired? This refers to your usual way of life in recent times. If you haven't done some of these things recently, try to work out how they would have affected you.

Use the following scale to choose the **most appropriate** number for each situation:

- 0 = would **never** doze
- 1 = **slight** chance of dozing
- 2 = **moderate** chance of dozing
- 3 = **high** chance of dozing

Situation	Chance of Dozing
Sitting and reading	
Watching TV	
Sitting, inactive in a public place (e.g., a theatre or a meeting)	
As a passenger in a car for an hour without a break	
Lying down to rest in the afternoon when circumstances permit	
Sitting and talking to someone	
Sitting quietly after a lunch without alcohol	
In a car, while stopped for a few minutes in traffic	

Total Score =

A score of more than 10 suggests clinically significant daytime sleepiness, although a lower score does not exclude it.