

Sleep Laboratory Services (Polysomnography) for Adults - Standards for Waitlist Management and Access

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This document has been approved by the Medical Services Commission (MSC) and is intended to provide guidance to medical staff and managers of MSC approved sleep laboratories.

1.0 Purpose and Components of Polysomnography

Polysomnography is an overnight test to diagnose sleep disorders. It is done in a specialized sleep laboratory and generally includes monitoring of the patient's airflow through the nose and mouth, electrocardiographic activity, blood oxygen level, brain wave pattern (electroencephalogram), eye movement, and the movement of respiratory muscles and limbs. Full polysomnography may entail measurement and recording of 15 such parameters.

The test is commonly performed by a specially trained technologist under supervision of a qualified physician (e.g., respirologist, neurologist, or psychiatrist), who later interprets the recorded results.

2.0 Criteria for Referral of Cases

2.1 General

Polysomnography should be performed only when necessary to provide diagnostic information that will uniquely guide provision of timely and effective treatment for sleep disorders. Clinical history and other tests can provide important diagnostic information, and resources for polysomnography are limited.

Currently, polysomnography is considered the "gold standard" diagnostic test for sleep disordered breathing (SDB) and other sleep disorders. Over time, improvements in alternative portable or home-based testing technologies may reduce the proportion of patients who require polysomnography.

2.2 Suspected Sleep Disordered Breathing¹

In general, polysomnography should be performed for the diagnosis of suspected SDB when clinical history and prior overnight home oximetry results are inconclusive. Normal overnight home oximetry, together with an Epworth Sleepiness Scale (ESS) score of <10 and no other symptoms or signs, usually excludes clinically relevant SDB. Polysomnography is usually not indicated in this situation.

¹ Sleep disordered breathing includes four distinct syndromes: obstructive sleep apnea/hypopnea (OSAH); central sleep apnea/hypopnea; Cheyne-Stokes respiration; and sleep hypoventilation.

Overnight home oximetry alone does not exclude SDB. Studies using overnight home oximetry, interpreted by a qualified physician, have a role in the initial assessment of SDB. However, their significant limitations must be fully appreciated in using them to make diagnostic and therapeutic decisions.

In some patients with a characteristic clinical presentation of obstructive sleep apnea/hypopnea (e.g., loud snoring, observed sleep apnea, upper body obesity, excessive daytime sleepiness) and significant arterial oxygen desaturation during the night, **it may be appropriate to proceed directly to a trial of nasal continuous positive airway pressure (nCPAP) treatment.** In such cases, polysomnography may be required only if the treatment is unsuccessful (i.e., the patient remains symptomatic or has persistent arterial oxygen desaturation during the night with treatment).

2.3 Other Sleep Disorders

Polysomnography may also be helpful in diagnosing other non-respiratory sleep disorders (e.g., narcolepsy, periodic limb movement disorder, sleepwalking, persistent nightmares, etc.)

3.0 **Triage of Referrals**

3.1 General

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 SDB. All patients should be questioned specifically about daytime sleepiness, and the patient should complete the Epworth Sleepiness Scale (ESS). Patients without excessive daytime sleepiness should have overnight home oximetry to assist in excluding clinically important SDB.²

Patients with excessive daytime sleepiness and/or abnormal overnight home oximetry should be referred to an appropriate specialist with an interest in sleep disorders, for consultation and assessment and, if appropriate, treatment trial or requisition of polysomnography. Overnight home oximetry should be performed for any patient with suspected SDB prior to referral for an urgent polysomnogram.

² See MSC/BCMA Guideline, "Assessment and Management of Obstructive Sleep Apnea in Adults", revised 2005.

3.2 Categories of Priority

Patients referred for polysomnography may be assessed for triage by the following categories and criteria:

Priority 1 (Urgent)

Patients with:

- suspected sleep disorder; and
- major daytime sleepiness (ESS 10 or greater); and
- one or more of the following
 - co-morbid disease³; or
 - high risk occupation⁴; or
 - overnight home oximetry which reveals >10/hour 4% desaturations.

Priority 2

Patients with:

- suspected sleep disorder; and
- major daytime sleepiness (ESS 10 or greater); but
- with no co-morbid disease or high risk occupation.

Priority 3

Patients with:

- suspected sleep disorder; but without
 - major daytime sleepiness (i.e., ESS <10); or
 - co-morbid diseases; or
 - high risk occupation.

4.0 Format for Requisitions

A standard requisition form for polysomnography is attached as Appendix 1.

This form would be completed by the specialist consultant interested in sleep medicine, after the consultation visit with the patient and at the time of ordering polysomnography by an approved sleep laboratory. The clinical information noted on the requisition would then assist the person(s) responsible for triage of cases referred to the sleep laboratory.

³ *Co-morbid disease*: ischemic heart disease, cerebrovascular disease, congestive heart failure, obstructive/restrictive lung disease, pulmonary hypertension, hypercapnic respiratory failure.

⁴ *High risk occupations*: truck, taxi, bus drivers; railway engineers, airline pilots, car drivers who admit to have fallen asleep while driving within the last two years (all patients who are considered high risk should be told to cease their occupation and personal driving until after their polysomnogram has been reviewed and/or appropriate treatment has commenced).

5.0 Access Standards

Reasonable access to polysomnography in Medical Services Commission (MSC) approved sleep laboratories will be considered to exist under the following conditions:

Geographic Access

- Within the territory of each regional Health Authority (HA), MSC approved sleep laboratory capacity relative to the HA adult population is at least equal to the ratio of sleep lab service utilization to adult population in the province overall⁵.

That is,

$$\frac{\text{Approved sleep lab capacity in HA}}{\text{HA adult population}} = \text{or} > \frac{\text{Sleep lab utilization in BC}}{\text{BC adult population}}$$

AND

Waiting Times⁶

- Polysomnography by an approved sleep laboratory can, as a rule, be arranged and completed:
 - for Priority 1 (Urgent) cases, within 2 to 4 weeks;
 - for Priority 2 cases, within 2 months; and
 - for Priority 3 cases, within 6 months.

⁵ Sleep laboratory capacity/utilization is expressed as bed-nights approved/used relative to adult population (per 10,000).

⁶ These suggested standards for waiting times should be considered tentative and provisional pending current Federal/Provincial/Territorial initiatives to establish evidence-based benchmarks for medically acceptable wait times starting with cancer, heart, diagnostic imaging procedures, joint replacements, and sight restoration, as agreed in the September 2004 health accord.

6.0 Monitoring of Waiting Times

Each MSC approved sleep laboratory is required to establish and maintain a waiting time monitoring system based on the triage criteria set out in Section 3.0.

This system should enable the Medical Director and/or Manager of each sleep laboratory to provide, at any time, an immediate and accurate estimate of the expected waiting time for a polysomnogram at that facility, according to category of priority.

The Medical Director and/or Manager of the laboratory should review this data weekly or as required for efficient scheduling of cases.

7.0 Cross-Referral of Cases

If a sleep laboratory's projected waiting times in any category begin to exceed the suggested waiting time standards, the facility staff should contact other MSC approved facilities (starting with the one(s) that would generally be the most convenient alternative service site for its patients), to determine whether any alternative facility would be able to accommodate referred patients within waiting times that are appreciably shorter or within the suggested standards.

If so, the original laboratory will:

- provide this information to patients whose waits for service at the original facility would be expected to exceed the standards; and
- offer those patients who opt to pursue earlier services at an alternative facility any advice or assistance they may need with re-referrals and appointments.