

## HOW TO PREPARE FOR YOUR SLEEP STUDY

Although the routines may vary a little between sleep clinics, the items listed below are general considerations:

- Please note that napping, alcohol intake, recreational drugs or caffeine all may affect the test and can interfere with the accuracy of the results.
- Bring valid Health Care Card and/or a current Hospital Patient Registration Card (if required).
- Please arrive for your sleep study on time (clinics usually stagger the arrival time of patients - if you arrive late, you will affect other patients). You cannot arrive at your usual bedtime because it takes time to apply the sensors.
- Shower or bath before going for your study. Do not use hair products including gels, creams and sprays. Many hospitals are scent-free. Also avoid using skin lotion, face makeup, fingernail polish or acrylic nails as these products interfere with procedures. Men who are normally clean-shaven should shave on the evening before going to the sleep laboratory. There is no need to shave off an existing beard or moustache.
- Please continue to take all medications as usual unless you have been specifically asked to stop a medication prior to your study. Bring your medications to the sleep clinic as most sleep clinics do not have access to any medications.
- Bring comfortable bed clothes, preferably pajamas. As a courtesy to the sleep technicians and to other patients, you are required to wear something while you sleep. Bring a robe and slippers if you require them.
- Pack your personal toiletries (toothbrush, etc.)
- You will be asked to complete questionnaires before and after your sleep study. Please bring a family member or friend if you need help completing the questionnaires.
- If you are diabetic or get hungry during the night, bring a snack.
- Light reading material to keep you occupied.
- You may be asked to give written or spoken consent to the procedures. Rules differ from province to province. You will be advised what is required when you are at the sleep clinic.
- What to do if you are sick? When your sleep study

either temperature changes (thermistors) or pressure changes (nasal pressure cannula) as patients breathe in and out. Variation in the flow signals are used to detect any breathing problems during the night. Respiratory bands that stretch and contract with each breath are placed around the chest and abdomen, which are a reflection of respiratory effort. Changes of respiratory effort are used to identify respiratory events during the night.

- **Pulse Oximetry:** This determines the amount of oxygen circulating in your blood, and is measured by a small light sensor placed on a finger or toe. Interruptions to breathing may result in changes of oxygen levels in the blood. These changes are also used to identify respiratory events during the night.
- **Video monitoring:** An infrared camera may be present in the bedroom which will allow the technologist to observe and note body position changes as well as unusual sleep behaviours. The room may also be monitored to detect sound.
- **Snore sensor:** Either a microphone or vibration sensor may be placed near your throat. It takes 30-60 minutes to apply all the sensors prior to the sleep study. Each patient has their own bedroom. The technicians collect the sleep study data in a nearby control room. If you require assistance during the night, the technician is there to help. Starting at approximately 6 am, the technician will wake patients and remove the electrodes. After completing a brief questionnaire, patients can wash up and leave.

The sleep study is analyzed and interpreted by specialized technologists and physicians with training in sleep disorders. The sleep specialist that interprets your study understands that your sleep in the laboratory may not completely match your sleep at home; this difference usually does not interfere with obtaining the necessary data from your study.

A report is created that summarizes your sleep information. A physician will then review the sleep study report and give an interpretation of the results. The sleep study contains hours of data. Results should back to your doctor within 3-4 weeks.



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## Patient Guide to Sleep Studies

INTRO

THERE ARE 3 TYPES OF  
SLEEP STUDIES

ELECTROENCEPHALOGRAPH  
(EEG)

HOW TO PREPARE FOR YOUR  
SLEEP STUDY

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## PATIENT GUIDE TO SLEEP STUDIES

In the past 25 years, awareness of sleep disorders has expanded rapidly. As a result, there is an increased demand for sleep studies. There are many reasons to be referred to the sleep clinic.

Perhaps you are having difficulty falling asleep or staying asleep, falling asleep at work, sleep walking or talking, snoring, or are excessively restless at night.

Or perhaps you are experiencing difficulty concentrating or waking up with morning headaches. Your family doctor may send you to the sleep clinic to have any of these symptoms investigated.

The formal name for a sleep study is overnight polysomnography (PSG). The word polysomnography is derived from 3 Greek words: “poly” meaning many, “somno” meaning sleep and “graphy” meaning to write.

During a sleep study, information is collected from a variety of physical systems while you sleep using special sensors. This may include brain wave activity, oxygen levels, breathing effort, heart rhythms and muscles tone.

## THERE ARE 3 TYPES OF SLEEP STUDIES

**Level I** sleep studies are full sleep studies that are carried out in sleep clinics located within hospitals or in private - community based sleep centres.

**Level II** sleep studies are generally referred to as home studies and use portable monitors that are not attended by sleep technicians during the study. These studies also collect information from all of the sensors listed above.

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**Level III** sleep studies also use portable sleep monitors. Level III studies, however, collect only minimal information on respiratory effort, airflow, ECG and pulse oximetry. These studies do not collect any information on the sleep/wake pattern across the night.

In Canada, there is provincial variation on which type of sleep study, if any, is covered by provincial healthcare services. If sleep studies are not covered by provincial healthcare, patients will be responsible for paying for the sleep study. In these cases, private health coverage may help offset the costs. Please discuss your options with the sleep clinic when you book your sleep study.

## ELECTROENCEPHALOGRAPH (EEG)

Sensors (also called electrodes) are placed on the surface of the head to collect brain wave activity. Information collected from these sensors allows the determination of sleep vs wake.

The specific patterns also allow sleep staff to know what stage of sleep you are in (for example, REM or dreaming sleep; slow wave or restorative sleep). Valuable information is obtained from both the amount of sleep during the study and the pattern of sleep stages across the night.

- **Electrooculograph (EOG):** Electrodes placed near the outer corners of the eye captures eye movements during sleep. These eye movements are used to identify Rapid Eye Movement (REM) sleep – more commonly referred to as dreaming sleep.
- **Electromyogram (EMG):** Electrodes placed on the skin over muscles can monitor muscle activity and movements during sleep. EMG activity is used to determine when patients are in REM sleep. EMG activity is also used to identify leg or arm movements during sleep as well as full body movements.
- **Electrocardiography (ECG or EKG):** Electrodes placed on the chest collect information about heart rhythms during the night.
- **Respiration/Breathing Effort or Respiratory Monitoring:** Thermistors and Nasal Pressure Cannula are specialized sensors that are placed under the nose or just inside the nostrils to capture

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was booked, you were likely given information about what to do in the event of illness. If you are not sure if you should go to the sleep clinic, please telephone the office. Do not wait until the last minute to cancel an appointment. This time was set aside specifically for you. You may be charged for a missed appointment.

We hope that your experience at a sleep center is a positive one.



**Evaluation and management of sleep disorders can significantly improve your overall health and quality of life.**

## ADDITIONAL PATIENT BROCHURES BY SLEEP EXPERTS

- Dental Appliances
- Sleep in Aging
- Sleep Bruxism
- Drowsy Driving
- Insomnia
- Human Circadian Rhythms
- Strategies for Night Shift Workers
- Narcolepsy and Cataplexy
- Dreams and Nightmares
- Obstructive Sleep Apnea
- Patient Guide to Sleep Studies
- Positional Therapy for Obstructive Sleep Apnea
- Children
- Restless Legs Syndrome
- Sleep and Post- Traumatic Stress Disorder
- Normal Sleep

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The Canadian Sleep Society is a national organization committed to improving sleep for all Canadians through: support for research, promotion of high quality clinical care, education of professionals and the public, and advocacy for sleep and sleep disorders medicine.

For more information visit [www.canadiansleepsociety.com](http://www.canadiansleepsociety.com) or email [info@css-scs.ca](mailto:info@css-scs.ca)

Canadian Sleep Society



Société Canadienne du Sommeil



National Campaign SLEEP ON IT!

This Canadian public health campaign is about sleep. It explains everything you need to know about sleep and it offers solutions to members of the public who suffer from sleep disorders.

For more information: [www.sleeponitcanada.ca](http://www.sleeponitcanada.ca)