

# Sleep Disorders and the Sleep Study

A sleep study or polysomnogram (PSG) is a test that electronically transmits and records specific physical activities while you sleep. The recordings become data that are analyzed by a qualified sleep specialist to determine whether or not you have a sleep disorder.

There are four kinds of sleep studies, including:

- **Diagnostic overnight PSG:** General monitoring of sleep and a variety of body functions during sleep, including breathing patterns along with oxygen levels in the blood, heart rhythms, and limb movements
- **Diagnostic daytime multiple sleep latency test (MSLT):** The MSLT is used to diagnose narcolepsy and to measure the degree of daytime sleepiness. It measures how quickly you fall asleep in quiet situations during the day. It also monitors how quickly and how often you enter REM sleep. To ensure accurate results, it is performed on the morning following a diagnostic overnight PSG.
- **Two-night evaluation PSG and CPAP titration:** CPAP (continuous positive airway pressure) is a sleep apnea treatment that involves the delivery of air into the airways through a specially designed nasal mask. On the first night of the two-night protocol, general monitoring and diagnostic evaluation is conducted. If sleep apnea is discovered, the patient returns for a second night to determine the necessary CPAP pressure required to alleviate apnea.
- **Split-night PSG with CPAP titration:** Split-night PSG is conducted when moderate or severe sleep apnea has been discovered or strongly suspected during the first part of the night's study. The second half of the night is used to determine the necessary CPAP pressure required to alleviate apnea.

## What to Expect During a Sleep Study

On the night of your sleep study, you will be assigned to a private bedroom in a sleep center or hospital. Near the bedroom will be a central monitoring area, where the technicians monitor sleeping patients.

You will be hooked up to equipment that may look uncomfortable. However, most patients fall asleep with little difficulty.

## Equipment Used for a Sleep Study

During the sleep study, surface electrodes will be put on your face and scalp and will send recorded electrical signals to the measuring equipment. These signals, which are generated by your brain and muscle activity, are then recorded digitally. Belts will be placed around your chest and abdomen to measure your breathing. A bandage-like oximeter probe will be put on your finger to measure the amount of oxygen in your blood.

## Other Tests and Equipment for a Sleep Study

- **EEG** (electroencephalogram) to measure and record brain wave activity
- **EMG** (electromyogram) to record muscle activity such as face twitches, teeth grinding, and leg movements; it also helps in determining the presence of REM stage sleep.
- **EOG** (electro-oculogram) to record eye movements; these movements are important in determining the different sleep stages, particularly REM stage sleep.
- **EKG** (electrocardiogram) to record heart rate and rhythm
- **Nasal airflow sensor** to record airflow
- **Snore microphone** to record snoring activity

Sources:

National Sleep Foundation.

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[http://www.webmd.com/sleep-disorders/guide/polysomnogram?ecd=wnl\\_slw\\_061914&ctr=wnl-slw-061914\\_Id-stry\\_3&mb=tdqBiFFJL7DPXNZ2FHEaeHnVev1imbCy0%2f9rpkC37M%3d](http://www.webmd.com/sleep-disorders/guide/polysomnogram?ecd=wnl_slw_061914&ctr=wnl-slw-061914_Id-stry_3&mb=tdqBiFFJL7DPXNZ2FHEaeHnVev1imbCy0%2f9rpkC37M%3d)