

1. **Nocturnal Polysomnography (Initial Sleep Study)**- this is for diagnostic purposes only, Polysomnography (PSG) is a test usually performed at night and is used to diagnose many different sleep disorders. Keep in mind that the measuring devices are not painful and no needles are involved.

PSG measures the following

EEG (electroencephalograph): monitors brain waves to help determine your stage of sleep.

EOG (electrooculograph): monitors eye movements.

EMG (electromyograph): monitors limb movements and chin activity.

ECG (electrocardiograph): measures heart rate and rhythm.

Sensors called thermocouples or pressure catheters are used to monitor breathing from the nose and mouth.

Belts placed around the chest and abdomen measure respiratory effort.

Oxygen is monitored by a finger probe that clips to the finger.

2. **CPAP titration Sleep Study**-Once polysomnography (PSG) establishes that a patient has obstructive sleep apnea, the next step is to determine the level of CPAP the patient requires. [PSG measurements](#) are taken while CPAP is applied. Pressure is started at a low level and increased throughout the night by the sleep technologist until a therapeutic level is reached – this is called titration. CPAP titration is only performed on patients who have obstructive sleep apnea.
3. **Multiple Sleep Latency Test** or MSLT is used to diagnose narcolepsy and idiopathic hypersomnia. This test involves taking a series of naps throughout the day. Most patients will also spend the night prior to the MSLT in the lab for a PSG, so the monitoring devices described in the PSG section are already in place.

During each nap opportunity, the patient is allowed a certain amount of time to fall asleep, then, a certain amount to sleep. The tech monitors to make sure the patient is not sleeping between nap opportunities.

4. **Split Polysomnography**

Split PSG combines diagnostic polysomnography and CPAP titration into one night. A portion of the night is used to establish that the patient has obstructive sleep apnea using the PSG measurements.

The second portion of the night is used for CPAP titration to determine the optimum pressure. CPAP titration requires approximately four hours. Sleep Disorders Center of Virginia strives to perform diagnostic polysomnography and CPAP titration on the same night whenever possible. There are reasons why performing diagnostic polysomnography and CPAP titration on the same night are either not possible or not desirable

5. Maintenance of Wakefulness Test

The Maintenance of Wakefulness Test (MWT) is a way to evaluate the ability to stay awake during the day. An overnight diagnostic sleep study called a polysomnogram (PSG) is usually required the night prior to the daytime MWT. After the PSG is complete, the MWT testing is spread over the following day. There are 4 tests spaced 2 hours apart. After being asked to stay awake, sensors on the head and chest record your brain wave activity, eye movements, muscle contractions, and heart activity to accurately detect if you fall asleep. The information we collect during your study is reviewed and analyzed by our sleep specialists.

6. **Home Sleep Test (HST)**- your physician's office can schedule you an appointment to pick up a unit at the Sleep Center where you will be instructed on its use and what the system does. The HST measures, Airflow, Breathing effort, Blood oxygen saturation and heart rate