

### ***What is obstructive sleep apnea syndrome (OSAS)?***

Sleep is accompanied by relaxation of the muscles that stiffen and open the throat. This muscular relaxation leads to slight sleep-related narrowing of the throat that is of no importance for most people. In people with obstructive sleep apnea syndrome (OSAS), the sleep-related narrowing is so great that breathing becomes difficult, as if breathing through a floppy, wet straw. The brain senses that breathing is difficult and increases the effort to breathe. Increased effort to breathe briefly awakens the brain in order to stiffen and open the throat. Once awake, with a fully open throat, effort to breathe decreases. As breathing effort returns to normal, sleep resumes and the cycle of falling asleep, throat narrowing, raised effort to breathe and then arousal from sleep repeats itself. This cycle can disturb sleep dozens to hundreds of times each night, but most of the awakenings are so brief that they are not remembered. Someone with this pattern of obstructive breathing during sleep, awakenings from sleep, and daytime symptoms is said to have OSAS. Often OSAS is accompanied by lack of oxygen during sleep. If you have OSAS, you probably don't sleep soundly, you may snore loudly, and you may suffer daytime sleepiness that affects your work and/or social life. OSAS can also put you at risk for high blood pressure, heart failure, heart attack, stroke, or depression.

### ***What is a sleep study?***

A sleep study or polysomnogram (somnus = sleep) is a recording that includes measurements used to identify different sleep stages and classify various sleep problems. It is possible to identify which stage of sleep a person is in by measuring different activities of the brain and body. During sleep testing, the activities that go on in your body during sleep (brain waves, muscle movements, eye movements, breathing through your mouth and nose, snoring, heart rate and leg movements) are monitored by small metal discs (called electrodes) applied to your head and skin with an adhesive. Flexible elastic belts around your chest and abdomen measure your breathing. The level of oxygen in your blood and your heart rate are monitored by a clip on your index finger. Your sleep will be videotaped for review of any abnormalities observed during the study. None of these devices are painful and all are designed to be as comfortable as possible. The electrodes may feel strange on your skin at first, but most people do not find them uncomfortable or an obstacle to falling asleep. Although your sleep in the center may not be exactly like your sleep at home, this usually does not interfere with obtaining the necessary information from your study. Our sleep center is homey and comfortable, like a hotel room. The technical equipment and technicians will be in a room separate from your sleeping room, and the electrode wires will be gathered together in a kind of ponytail behind your head so that you will be able to roll over and change positions almost as easily as you would at home.

### ***What is Nasal Continuous Positive Airway Pressure (CPAP)?***

Nasal Continuous Positive Airway Pressure (CPAP) is in the majority of cases the most effective method of treating OSAS. A CPAP machine delivers air into a flexible tube that is attached to a specific mask for your nose. This air will keep the throat from narrowing and prevent OSAS. If there is significant sleep apnea during the initial two to three hours of your sleep study, then nasal CPAP will be used to treat your sleep apnea for the rest of your sleep study.