

SLEEP DISORDERS: SLEEP DISORDERED BREATHING (SNORING-APNEA)

Getting a good night sleep is important for overall physiologic wellbeing, mental performance, and happiness. This is a brief outline to help you start to understand the **30%** of your life you spend sleeping or “Recharging your Brain.”

SLEEP HYGIENE

Optimizing your sleep experience: Preparing your sleep environment is vitally important.

1. Maintain a regular sleeping schedule: Approximately Same time.
2. Close your day. Mentally finish the day.
3. Preparing your bed to be comfortable, Meditation when in bed and deep breathing yourself to sleep.
4. Removing electronics to the bathroom or another room.
5. Exercise on a regular basis.
6. Avoid stimulants such as caffeine before bed, avoid alcohol and a large meal before bed
7. Use the bathroom prior to bedtime.
8. If you wake up and do not immediately go back to sleep, get up and start your day. Lying in bed trying to sleep is not effective and leads to disrupted sleep.

OBSTRUCTIVE SLEEP APNEA

Obstructive sleep apnea is a condition in which the airway does not fully open during sleep. This can lead to loud snoring and lapses in breathing that can occur hundreds of times a night. This breathing interruption can lead to irregular heartbeats and high blood pressure. This can be diagnosed with a sleep study either at home or in a lab. **Sleep disordered breathing** is the medical term for *snoring*. This is a physiologic event caused by soft palate asynchronous vibrations (sound of snoring) that alert the brain that there may be “danger” in the airway. The central nervous system closes the airway to protect the lungs (similar to the “Gag Reflex”) which leads to hypopnea.

- ▶ **Hypopnea:** A short, shallow breath. Not enough oxygen is transported or effective lung expansion.
- ▶ **Apnea (Cessation of breathing):** This is usually caused by the base of tongue falling back on the airway-larynx causing obstruction. Until the tongue is repositioned out of the airway which results in a patient waking up.

THREE IMPORTANT ASPECTS OF OBSTRUCTIVE SLEEP APNEA: “SLEEP TRIFECTA”?

1. **Weight (Body Mass Index):** The optimal is below **25**. Above **30-31** the only treatment is CPAP: Continuous Positive Airway Pressure machine to keep airway open due to diaphragm/Muscle of Respiration, pushing hard against the flaccid weight in the abdomen. Sleeping on the side or sitting upright (Lazy-Boy Chair) displaces the weight so the increased effort of the diaphragm is alleviated. See BMI Chart.
2. **Natural Free Nasal Breathing:** This closes the mouth, anchors the tongue (jaw thrust in CPR), is less effort than mouth breathing and allows **20%** more lung expansion and blood oxygenation. We are obligate nasal breathers and when we breath through our mouths, struggle, snore, and have short shallow breaths: **Hypopneas**.
3. **Palatal Vibrations-Snoring and Base of Tongue Prolapse:** Open mouth results in both **hypopneas** and **apneas**. Over **70-80%** of snoring originates in the soft palate. When we sleep, the palatal muscle relaxes and allows it to fall back into the airway.

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Patients rarely enter into **Stage 2** sleep and are rarely rested although they may be in bed for hours.

RESTLESS LEG DISORDER/PERIODIC LIMB MOVEMENT DISORDER

Restless leg disorder is a condition that usually affects a person during the transition from wakefulness to sleep. It is described as a restless, uncomfortable feeling in the lower legs. Restless leg syndrome can make it very difficult for a person to fall asleep with brief interruptions of sleep.

WHAT IS A SLEEP STUDY?

A **sleep study** is a painless session that monitors your sleep through the night and is usually performed in a sleep lab or at home. During a sleep study breathing, heart rate, oxygen level, eye movement and brain waves are monitored. Home sleep studies are performed in your bed for up to **3** nights of data. This simulates your daily life better.

WHAT IS THE TREATMENT?

- ▶ **Lose Weight: BMI: _____ Optimal Weight: _____**
- ▶ **CPAP (Continuous Positive Airway Pressure):** The CPAP delivers air pressure into the airway to keep the airways open during sleep.
- ▶ **Nasal Surgery:** At times to be a candidate for CPAP which is delivered through the nostrils, nasal surgery is necessary to open the passages. For successful treatment, nasal breathing is important with your mouth closed. With your mouth closed it takes less effort to breath, diminishing the “vacuum effect” of the negative pressure to inhale the air and it serves as an anchor for your tongue, so it does not fall back in your throat causing a blockage. The Nasal Cycle which causes one sided swelling of the turbinates, lasts for **1-2** hours and switches. Therefore when the normal nasal passage is swollen it causes complete nasal blockage while the blocked side is obstructed.
 - ▶ **Turbinate reduction**
 - ▶ **Septoplasty:** To straighten the divider in the nose creating near-equal breathing passages
 - ▶ **Nasal Valve Repair:** “Internal Breath Right Strips”
- ▶ **Palate Surgery:**
 - ▶ **Palate Stiffening/Stabilization Procedure:** Pillar Implants or elevoplasty implants
 - ▶ **Uvulopalatopharyngoplasty:** Removal of part of the palate, side of throat and uvula increasing the space
- ▶ **Tonsillectomy:** Remove obstructing large tonsil tissue in the mouth.
- ▶ **Base of Tongue Reduction**