## **SNORING AND SLEEP APNEA**

Snoring has been a subject of ridicule and laughter for generations. Who can't recall a time when we made fun of someone's snoring? Although must snoring is benign and not associated with any serious medical condition, snoring can be a sign of a serious medical condition or sleep disorder. So, not only does the listener suffer from a poor night's sleep, but the snorer as well may also be suffering from more than that.

**PEDIATRICS**: Although parents will report some short-lived mild snoring when their child has a cold or allergy exacerbation, loud persistent snoring should always be investigated. Fortunately, for most otherwise healthy children, the vast majority of correctible snoring is the result of enlarged tonsils and/or adenoid tissue. Consultation with an otolaryngologist with careful examination can usually pinpoint this as the cause without having to resort to overnight sleep studies. Removing the tonsils and adenoids typically results in resolution in at least 90% of cases. Occasionally, a formal overnight sleep study may be necessary to better understand the potential for chronic night-time airway narrowing.

**ADULTS**: Snoring in adults tends to be more complicated that in children even though in many young adults, the same issue is identified with enlarged tonsils and adenoids. However, when you look at the outcomes data from simple tonsillectomy and adenoidectomy in adults who snore prior to surgery, the success rates are not as appealing with at least half of the patient reporting persistent snoring after tonsillectomy and/or palate surgery. Research shows that adults typically have more than one level of airway obstruction, so removing the tonsils and adenoids may not completely address the problem. In order to address all of the potential sites of airway obstruction in adults, careful examination and testing are required to better understand the exact location and can lead to more successful treatment options.

Prior to any surgery, all adults who suffer from bothersome soring should undergo an overnight sleep study (polysomnogram) where the patient is testing in a lab overnight. The sleep lab polysomnogram will measure brain waves for sleep stages together with respiratory effort and noises and other psychological parameters. An expert in sleep will score the test and determine what type of severity of sleep disorder is present. The number of times a person stops breathing or slows breathing efforts are totaled and divided by the number of hours asleep to formulate a respiratory distress index (RDI). Adults can stop breathing up to 5 times per hour and still be considered normal assuming now other problems are noted on the study. For those with elevated RDI's, treatment should be initiated as well as consideration for corrective surgery in those who are candidates.

**TREATMENT**: Non-surgical treatment for snoring and/or apnea is always considered first with a trial of continuous positive pressure (CPAP). CPAP is a therapy which involves being fitted with a special mast connected to a small machine that pushes air to open up the collapsing airway

CPAP machines are being more widely accepted by the population s they are more affordable and comfortable than in years past. Once tolerated and worn, patients with snoring and sleep apnea will notice a return to normal sleep patterns and wake with a more restored feeling than they have had in years. Not all patients tolerate CPAP and others just want to consider corrective surgery in order to avoid being dependent on CPAP for the rest of their lives. Other alternative non-surgical treatments including jaw thrusting or tongue retaining devices fit by oral surgeons. If these latter treatments are utilized, then a sleep study should be performed while the patient wears these devices to ensure they are effective.

**SURGERY:** As mentioned above, surgery for snoring is considered after an accurate diagnosis is made including after an overnight polysomnogram is completed to rule out sleep apnea. If one suffers from only mild sleep apnea or it there is not apnea present, the ENT doctor can assist with surgical intervention.

Some patient's snoring is from the soft palate and some suffer from noises coming from the back of the tongue vibrating against the back wall of the throat. Obviously, surgery is directed to the location of the problem and outcomes are directly related to correctly identify the source.

Although the nose is not a common source of snoring, nasal blockage can aggravate and trigger snoring in both adults and children. As part of a comprehensive exam by an ENT doctor, any nasal problems will be addressed and discussed as well.

If soft palate surgery is contemplated, there are many techniques described in the literature with varying degrees of success. The goal of most of these procedures is to either shorten and/or stiffen the soft palate structures. Some procedures can be done in the office under local anesthesia, such as radiofrequency treatments to the soft palate, simple uvulectomy, and insertion of implants into the soft palate (Pillar procedure). More extensive surgery such as uvuloplasty flap or even uvulopalatopharyngoplasty can be performed for the most refractory cases of simply snoring.

Tongue base surgery is also an option for some patients whose snoring originates from the back of the tongue. Surgical options may include removal of prominent lingual tonsils, radiofrequency reductions, and/or hyoid myotomy and suspension. Most of these procedures are done under general anesthesia in a medical center for sleep apnea.

One must remember that snoring alone is essentially a cosmetic condition according to most insurance companies. The cost of treatment for snoring are therefore paid directly out of pocket by the patient. If the sleep study shows mild apnea, and the patient is intolerable to CPAP, then surgery is a consideration but still must be approved by the insurance company ahead of time. Therefore, patients must clearly communicate with their insurance company to understand their benefits for surgical treatment for snoring.