

SLEEP APNEA SNORING

Snoring is partially obstructed breathing. Sleep apnea is totally obstructed breathing (breathing stops completely) for 10 seconds or longer. It is a common and oft times serious condition that frequently goes unrecognized. You are not able to breathe. Within a few seconds you may start to gasp, snort, struggle, quickly change your sleeping position until the block is relieved. You subsequently return to a sleeping position where the blockage recurs and the cycle starts all over again. Loud snoring with gasping or choking sounds is the major indication that you have sleep apnea.

Virtually all people that have sleep apnea snore, but not all snorers have sleep apnea. Because sleep is repeatedly interrupted during the night you never get a full night's sleep, and day-time sleepiness is a second major indication. Other indications include falling asleep during the day automobile accidents or accidents on the job due to tiredness or exhaustion, changes in personality, mental fatigue resulting in difficulty in thinking and concentrating, frequent nocturnal urination, and high blood pressure with the attendant increased risks of heart attack and stroke. Suspect you have sleep apnea if your spouse reports that your stoppage of breathing, gasps, choking, and your attempts to start breathing again "scare her to death."

Some 76 million people in North America (U.S. and Canada) suffer from snoring. Snoring is frequently a person's most socially disruptive and annoying personal trait. Recent research reveals that continuing throughout life as a snorer or a sleep apneic no longer is unavoidable, but rather is a personal choice - a decision by a specific person not to do anything about it.

The Medical approach involves lifestyle changes such as:

There are three approaches to stopping snoring or sleep apnea: **Medical, Surgical, and Dental**

- Cessation of smoking .because smoking causes irritation of the tissue of the upper airway These irritated tissues swell, partially blocking the airway.
- Abstinence from alcohol .because alcohol causes reduced upper airway muscle tone.

causes the airway to partially collapse.

- Weight loss .because excessive weight causes increased size of the tissue of the palate and throat, thereby narrowing the airway.
- Nighttime use of a respirator called a Continuous Positive Air Pressure (CPAP) machine.

The CPAP machine tethers the sleeper by a hose from the respirator to a face mask. It pumps air from the machine through the hose to your nose, and the air is under enough pressure to keep the airway open. This method is inconvenient and has a low rate of compliance because the sleeper who tosses and turns gets the hose caught and must unhook and rehook it in the middle of the night

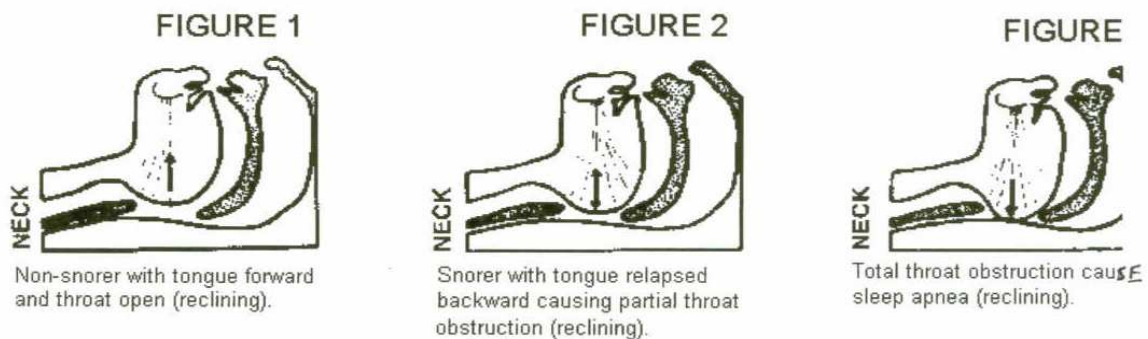
Sedatives (sleeping pills) increase snoring and sleep apnea and are therefore of no use. Sleeping position is most important. It is best to sleep on one's side, not on the back, which makes it easier for the tongue to drop backwards and obstruct the throat. This is rarely possible.

The Surgical approach involves the removal of throat tissues such as the soft palate, tonsils, and adjacent throat muscles, so as to enlarge the opening of the airway. The downside of this approach involves:

- Enduring the inherent risks of the surgical procedure itself.
- The removed tissue grows back over time.
- If too much tissue is removed you can get nasal (cleft palate like) speech and/or regurgitation of food into the nose.

Additional surgical procedures involve reducing the size of the tongue or orthopedic advancement of both the upper and lower jaws.

Most sleep researchers agree that the position of the tongue during sleep (Figure 1) is a substantial causative factor in both snoring and sleep apnea. As a person goes to sleep, especially while lying on his or her back, the muscles of the tongue and jaw relax and these structures move backward against the posterior wall of the throat. As the airway becomes part blocked, snoring occurs (Figure 2). If it progresses to complete airway blockage, sleep apnea (multiple stoppages of breathing for 10 seconds or longer) occurs (Figure 3).



The tongue is attached to the lower jaw. By moving the lower jaw forward with a nighttime dental appliance, the tongue is moved forward, the airway is opened up and stays opened, and snoring stops. (Figs. 4-7)

The snoring stays stopped as long as the appliance is worn. Most severe snorers wear their appliances for the rest of their lives. After the first few peaceful nights the sleep partner insists the snorer wear it faithfully. The downside of the dental approach is that there is a two to three night adjustment period (as with any other

item such as contact lenses) and possible sore teeth a few nights if the snorer is a nighttime tooth grinder. Upon awakening, your bite may be differ for approximately thirty minutes.

At their annual meeting in 1995, the American Sleep Disorders Association adopted a resolution which formally accepted dental appliance therapy for the treatment of not only snoring and mild sleep apnea, but also extended the recommendation to include treatment for moderate and severe cases of sleep apnea when the snorer rejects or can't comply with the continous positive air pressure (CPAP) respirator.

Recently the American Medical Association (AMA) Board of Trustees unanimously passed a resolution to study the issue of sleep disorders. This will address the correlation between sleep disorders and motor vehicle accidents, work place accidents, and functional and cognitive impairments due to excessive daytime sleepiness.

Currently there are approximately 30 different dental snoring appliances on the market.

These appliances hold the lower jaw forward in one specific position (bite) that the dentist determines is best for the snorer at the time impressions are taken for the appliance. This is before the appliance is made and the snorer is fitted for it (approximately 2-3 weeks later), and had an opportunity to try it out. Historically, some have worked and some have not. It is a "on shot deal."

What is brand new in the field of dental appliances for snoring and sleep apnea is the awarding of a government patent for a two piece snoring appliance that is adjustable in five different positions, forward and backward. Each position is 2 mm from each other giving a more adequate adjustment range of 10 mm. If after wearing the appliance a week or so, the snorer returns and says my spouse says my snoring is 40% better, the appliance can be taken apart and repositioned to move the lower jaw and tongue more forward, thereby opening ip the airway even further. If this does not stop the residual snoring, the repositioning process can be repeated. This eliminates the old way of making additional appliances (with attendant expenses) when they did not totally eliminate the snoring problem, or just giving up.

Documentation of the fact that you do have sleep apnea is best confirmed by a referral from your physician to an overnight sleep center. Through use of various sophisticated physiological monitors your heart rate, breathing, brain waves, and other significant measurements are recorded. They will find out if your sleep apnea is mild, moderate, or severe, and advise you what to do about it.

If you suspect you have snoring or sleep apnea and desire treatment with a dental appliance, please see your physician or diagnostic sleep center first and have the proper diagnosis confirmed and get a referral to this office. They will handle all the medical aspects of your case. We will fabricate and fit the dental appliance at their direction, if necessary. Or you can come to our office and we will refer you to a sleep center with which we work with.