

Sleep Apnea, an increasing health hazard in 2012

1. WHAT IS OBSTRUCTIVE SLEEP APNEA (OSA)?

It is a phenomenon that occurs during sleep that involves cessation of breathing multiple times during the night. SNORING is also part of the equation. The most common is obstructive sleep apnea, which occurs because the tongue falls into the throat and if the soft part of the palate is thick or long, it obstructs the airway especially if the nose is blocked up too.

2. HOW OFTEN CAN IT OCCUR?

- a. Less than 15% know they have it!
- b. 1-4 men have it, and 1-10 women
- c. It can occur for as long as a minute or more and can occur as often as every few breathes. Many patients obstruct their airway more than a hundred times an hour all night. Certainly those that stop breathing for more than 30 seconds every few minutes are at great risk. If you are not breathing, oxygen is not getting to your body which stresses all organs particularly the heart and brain.

3. Symptoms of OSA

- a. Daytime drowsiness
- b. Restless sleep
- c. Loud snoring with periods of silence
- d. Falling asleep during the day
- e. Morning headaches
- f. Trouble concentrating, irritability, forgetfulness
- g. mood changes, anxiety and depression

4. DO PATIENTS WAKE DURING THE APNEA?

Not often, although some will wake up feeling short of breathe. They are not aware of the apnea. The spouse is the one aware of severe snoring mixed with periods of no breathing. It is usually very scary for those who observe the obstructions, because they wonder if the person is ever going to take another breathe. The significant other is not getting their proper sleep either. It is very disturbing.

5. WHAT CAUSES SNORING AND SLEEP APNEA?

Almost all patients who have sleep apnea are bad snorers, but many can snore without stopping breathing. Even bad snorers report sleepiness in the daytime because they are partially obstructing their airways causing deoxygenation. The snoring sound is caused by a fluttering of the palate and tongue always worse if the snorer is mouth breathing and sleeping on their backs. With apnea, the snoring ceases during the episode, and then when the patient starts to breathe again, the snoring resumes.

6. What are the risk factors?

- a. Overweight
- b. Big or short neck
- c. High blood pressure
- d. A narrowed airway from dental/facial abnormalities, large tonsils, floppy thick soft palate, big tongue
- e. Being male—teice as likely
- f. Being older—2-3 X more common after 65
- g. Family history
- h. Use of alcohol, sedatives, or tranquilizers
- i. Smoking-3X as likely because of the airway irritation

- j. Prolonged sitting—large shift of fluid from the legs to the airway at night
- k. Many neurologic diseases predispose to airway issues

7. WHY IS OSA DANGEROUS?

Because it causes lack of oxygen in the body, the organs are stressed. Recent studies (THE JOURNAL OF SLEEPING AND BREATHING) suggest that hypoxia causes inflammatory markers to increase (ELEVATION OF C-REACTIVE PROTEIN). Inflammation is one of the primary causes of vascular disease. When this occurs on a chronic basis, the blood pressure elevates, leading to the HYPERTENSION AND ELEVATED PRESSURES IN THE LUNG, HEART FAILURE AND EVENTUALLY STROKE. This mechanism can now be studied as a value for the use of CPAP. This disruption of sleep during the night creates drowsiness in the daytime, lack of concentration, falling asleep behind the wheel or at work, irritability, depression, and of course marital stress, separating couples in different bedrooms, etc. This is a serious problem and must be evaluated.

8. HOW IS THIS DIAGNOSED?

A sleep study must be performed by a certified sleep lab. You spend all or part of a night to be tested by a trained observer, and are attached to various monitors that test your blood pressure, oxygen levels, breathing rate, heart rhythms, and brain waves. The results of the study are reported to your doctor. If you have moderate (APNEA INDEX=15-30 apneic episodes per hour or severe OSA (greater than 30), the technician will attach the patient to a nasal CPAP (continuous positive airway pressure)

machine which senses when you are not breathing and will force air through your nose to break the obstruction in your airway. Calibration of the pressure needed to relieve the obstruction is performed by the technician. A second night study may be necessary.

7. **WHAT TYPE OF DOCTOR SHOULD YOU SEE?** Talk to your doctor about seeing an ENT doctor to evaluate you for airway problems, like big tonsils, a floppy palate, a big tongue, short jaw, and nasal obstruction, all of which are factors in OSA. Also lung specialists frequently are involved with sleep labs and evaluating patients for OSA. It can occur in children
8. **DO CHILDREN HAVE APNEA? YES!** Children, who have large tonsils and adenoids, snore and can have apnea. This causes problems with behavior, hyperactivity, school work issues, and tiredness during the day.
9. **WHO NEEDS TO BE ON CPAP?**
Your doctor will discuss whether you need nightly CPAP. Usually for insurance to cover it, close to 30 apneic episodes per hour are necessary. I suggest you get a humidifier that attaches to the machine, since the air is drying. To give you satisfactory protection from OSA, you must wear the machine at least 4 hours per night. About 30% will have real trouble adapting to CPAP for one reason or the other. **TIP—WEAR THE MASK FOR 30 MINUTES BEFORE GOING TO BED TO GET USED TO BREATHING THROUGH THE NOSE. MASKS COST \$150 SO BE SURE YOU GET A 30 DAY TRIAL. LOSE WEIGHT, STOP DRINKING ALCOHOL AT NIGHT, AND NO NIGHTTIME SLEEP REMEDIES. USE THE CPAP EVERY NIGHT.**
10. **WHEN IS SURGERY CONSIDERED?**

If CPAP is not successful, surgery should be considered to clear the nasal and oral- throat airway. Surgery will open the nasal and oral airway, so obstructions in the nose like a deviated septum, and obstructions in the throat like big tonsils, a floppy long soft palate can be corrected. Seeing an experienced ENT doctor for their opinion is obvious. It is important to try CPAP first. Small lower jaws must be lengthened (orthognathic surgery) by an oral surgeon. Advancing the jaw will pull the back of the tongue forward.

11. SUCCESS DEPENDS ON WHAT?

If you lose substantial weight along with the surgery, you should expect at least 60% success. A post-op sleep study will need to be ordered to find out your success. Surgery alone will not be successful if you are really overweight. In my hands, patients became very motivated to exercise, diet, and get back into shape. After the surgery, they may do much better with the CPAP. In time, with weight loss, you can usually give up the CPAP. Careful selection of patients for surgery is necessary to obtain good rates of success. The surgery is not an easy one to undergo, so motivation to get better must be high.

12. The benefits of treating OSA!

- a. Restoration of normal sleep patterns
- b. Greater alertness and less daytime drowsiness
- c. Less anxiety and depression and better mood
- d. Improvements in work and play productivity
- e. Better concentration and memory

f. Sleep partner gets to sleep and like you again!

13. WHAT SYSTEMS MUST BE EVALUATED OTHER THAN THE AIRWAY?

Finding excessive weight, type 2 diabetes, heart irregularities, hypertension, and lung trouble are common. OSA is life threatening potentially. These occur as consequences of de-oxygenation during an apneic episode is the culprit, and it causes hypertension, heart stress, cardiac arrhythmias, and can lead to stroke, heart attacks, and pulmonary hypertension. A recent study at Massachusetts General Hospital found that a majority of patients with evidence of obstructive sleep apnea had some evidence of a silent stroke or microvascular changes in their brain on MRI. So, if a patient has TIAs (transient ischemic attacks), stroke, or heart problems, apnea needs to be looked for.

14. How many people have apnea??

Over 50 million snore and 18 million men and women have significant OSA (17% of Americans) and need treatment. If you or a loved one snores bad, has sleepiness during the day, feeling like you never get a good night's sleep, are overweight, have cardiovascular disease especially hypertension, ask your doctor to consider referring you to a SLEEP LAB and an ENT doctor, pulmonary or sleep specialist.

Want to take a test to see if you have sleep apnes

<http://bit.ly/GNfi3>

The Epworth Sleepiness Scale

umm.edu/sleep/Epworth_sleep.htm

References -----American Sleep Association

Google sleep apnea, and The Heart and Lung Institute. They have a video showing the anatomy and what happens when an apneic episode occurs.

Also see the attachment showing a patient with CPAP attached.