

WHAT YOU NEED TO KNOW ABOUT **SLEEP APNEA**



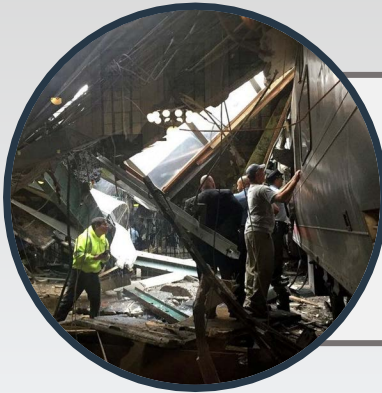


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SLEEP APNEA IN THE NEWS

Carrie Fisher died from sleep apnea, other factors, coroner says – USA Today



NJ Transit engineer in fatal Hoboken crash had undiagnosed sleep apnea

– NY Daily News

Trucker in Tracy Morgan crash pleads not guilty amid sleep deprivation reports – CNN News



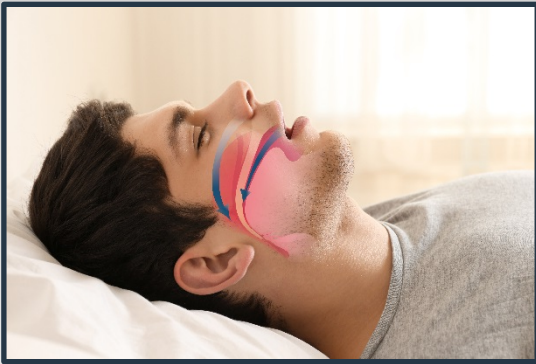
WHAT IS SLEEP APNEA?



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- ▶ A serious sleep disorder that occurs when a person's breathing is interrupted during sleep.
- ▶ People with untreated sleep apnea stop breathing repeatedly during their sleep, sometimes hundreds of times.
 - ▶ This means the brain – and the rest of the body – may not get enough oxygen.

TWO TYPES OF SLEEP APNEA:



- ▶ **Obstructive sleep apnea (OSA):** The more common of the two forms of apnea, it is caused by a blockage of the airway, usually when the soft tissue in the back of the throat collapses during sleep.



- ▶ **Central sleep apnea:** Unlike OSA, the airway is not blocked, but the brain fails to signal the muscles to breathe, due to instability in the respiratory control center.

OBSTRUCTIVE SLEEP APNEA (OSA)



- ▶ A recent analysis concluded that **1 in 5 American adults has at least mild OSA.**
 - ▶ That translates to 40 million people.
 - ▶ About one-third of that number has moderate or severe sleep apnea.

RISK FACTORS & MEDICAL IMPLICATIONS



COMMON RISK FACTORS OF OSA



- ▶ Being male
- ▶ Being overweight, a Body Mass Index (BMI) ≥ 30
- ▶ Being over age 40
- ▶ Having a large neck size (17 inches or greater in men and 16 inches or greater in women)
- ▶ Having large tonsils, a large tongue, or a small jaw bone
- ▶ Having a family history of sleep apnea
- ▶ Gastroesophageal reflux, or GERD
- ▶ Nasal obstruction due to a deviated septum, allergies, or sinus problems

MEDICAL IMPLICATIONS OF OSA

Obesity

- ▶ Extra pounds raise your chances of getting OSA, and the condition also makes it harder to slim down.
- ▶ When you're overweight, you can have fatty deposits in your neck that block breathing at night.
- ▶ The good news? Treatment for OSA can make you feel better, with more energy for exercise and other activities.

MEDICAL IMPLICATIONS OF OSA

Insulin Resistance: Type 2 Diabetes

- ▶ 7 in 10 people with Type 2 diabetes also have OSA
- ▶ The severity of the sleep disorder directly impacts diabetes symptoms
- ▶ The more severe a diabetic's untreated OSA, the poorer their glucose control.
- ▶ Treating OSA in diabetics improves nighttime glucose levels and insulin sensitivity.

MEDICAL IMPLICATIONS OF OSA

Cardiovascular: High Blood Pressure

- ▶ High blood pressure, known as hypertension, is the most important risk factor for cardiovascular disease.
- ▶ Between 30 and 40 percent of adults with high blood pressure also have sleep apnea.
- ▶ Approximately 80 percent of patients that do not respond to hypertensive medications have sleep apnea.
- ▶ Seeking and adhering to sleep apnea treatment is a proven means of decreasing blood pressure.
- ▶ Evidence shows that OSA treatment lowers nighttime and daytime blood pressure, with the greatest improvement in patients seeking treatment for moderate to severe sleep apnea.

MEDICAL IMPLICATIONS OF OSA

Cardiovascular: Stroke

- ▶ Stroke occurs when blood flow to an area of brain is cut off.
- ▶ Sleep apnea can be an after effect of stroke, but can also be the cause of a first time or recurrent stroke.
- ▶ Sleep apnea causes low oxygen levels and high blood pressure, both of which can increase the risk of a future stroke.

MEDICAL IMPLICATIONS OF OSA

Cardiovascular: Atrial Fibrillation (AFib)

It is estimated that nearly 50% of patients with atrial fibrillation have sleep apnea.

- ▶ Sleep apnea can cause drops in blood levels of oxygen and abnormalities in the balance between the parasympathetic and sympathetic nervous system (the latter is the “fight or flight” response).
 - ▶ These stresses can cause problems with the electrical firing within the heart that can lead to atrial fibrillation.
 - ▶ These stresses can also cause the heart muscle to enlarge or change shape, which can cause electrical pulses to be conducted abnormally, also possibly leading to atrial fibrillation.

THE EFFECTS OF OSA



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In the Workplace

- ▶ Untreated and ineffectively treated OSA has adverse effects on individual performance as well as the overall safety for workers and, in certain circumstances, the general public.
 - ▶ There is a clear relationship between excessive sleepiness and decreased work productivity in patients with OSA.
 - ▶ Screening for OSA in the workplace has the potential to identify a reversible cause of low work productivity.

THE EFFECTS OF OSA

On Cognitive Impairment

- ▶ Sleep problems can alter mood, making people with sleep apnea jumpy or quick-tempered, and making it more difficult for them to navigate the challenges of everyday life.
 - ▶ Many of the problems associated with sleep apnea are interconnected, and stress during the day can make OSA worse at night.

THE EFFECTS OF OSA

On Immunity

- ▶ There is increasing evidence that sleep deprivation has detrimental effects on the immune response, indicating that sleep should be considered a vital part of the immune system and that there is a reciprocal relationship between sleep and immunity.
 - ▶ It is a common belief that we are more susceptible to infections when deprived of sleep.

THE EFFECTS OF OSA

On Mental Health

- ▶ A study by the Centers for Disease Control and Prevention found that people with sleep apnea were more likely to experience depression than people in the general population.
- ▶ OSA is particularly likely to interfere with mental health because of the reduced oxygen supply to the brain at night, which can alter brain functioning and thus increase a person's likelihood of developing depression.

SLEEP ASSESSMENTS



SCREENING FOR OSA

STOP-BANG Questionnaire

| | | |
|---|-----|----|
| ▶ <u>S</u>nooring? Do you Snore Loudly (loud enough to be heard through closed doors or your bed-partner elbows you for snoring at night)? | Yes | No |
| ▶ <u>T</u>ired? Do you often feel Tired, Fatigued, or Sleepy during the daytime (such as falling asleep during driving or talking to someone)? | Yes | No |
| ▶ <u>O</u>bserved? Has anyone Observed you Stop Breathing or Choking/Gasping during your sleep? | Yes | No |
| ▶ <u>P</u>ressure? Do you have or are being treated for High Blood Pressure? | Yes | No |
| ▶ <u>B</u>ody Mass Index more than 35 kg/m ² ? | Yes | No |
| ▶ <u>A</u>ge older than 50? | Yes | No |
| ▶ <u>N</u>eck size large? For male, is your shirt collar 17in/43cm or larger? For female, is your shirt collar 16in/41cm or larger? | Yes | No |
| ▶ <u>G</u>ender = Male? | Yes | No |

SCREENING FOR OSA

Epworth Sleepiness Scale

| 0 Would NEVER doze | 1 SLIGHT chance of dozing | 2 MODERATE chance of dozing | 3 HIGH chance of dozing |
|--|---------------------------------|-----------------------------------|-------------------------------|
| ▶ Sitting and Reading | | | ① ② ③ |
| ▶ Watching TV | | | ① ② ③ |
| ▶ Sitting, inactive in a public place such as a theater or meeting | | | ① ② ③ |
| ▶ As a passenger in a car for an hour without a break | | | ① ② ③ |
| ▶ Lying down to rest in the afternoon when circumstances permit | | | ① ② ③ |
| ▶ Sitting and talking to someone | | | ① ② ③ |
| ▶ Sitting quietly after a lunch without alcohol | | | ① ② ③ |
| ▶ In a car, while stopped for a few minutes in traffic | | | ① ② ③ |

DIAGNOSTIC TESTING & TREATMENT



HOW OSA IS DIAGNOSED?

- ▶ Sleep testing provides a board certified sleep medicine physician with the information he or she needs to diagnose obstructive sleep apnea.
- ▶ The referring physician will prescribe an **Attended Sleep Test (AST)** or **Home Sleep Test (HST)** when OSA is suspected.



Attended Sleep Study



Home Sleep Study

ATTENDED SLEEP TEST (AST) – IN LAB

- ▶ An Attended Sleep Test, also known as a polysomnogram, records your brain waves, heartbeats and breathing as you sleep.
- ▶ This data will help your doctor make a diagnosis and develop a treatment plan.
- ▶ An in-lab sleep study involves an overnight stay at a sleep center, hospital or even a special hotel room.
- ▶ These environments are set up to make you as comfortable as possible so you can have a full night's sleep.

HOME SLEEP TEST (HST) – AT HOME

- ▶ Home sleep apnea testing is used to diagnose obstructive sleep apnea.
- ▶ There are a variety of convenient home sleep apnea testing devices that have different sensors and equipment – measure the patient's breathing and blood oxygen level.
- ▶ It allows the patient to sleep at home wearing equipment that collects information about how the patient breathes during sleep.

TREATMENT FOR OBSTRUCTIVE SLEEP APNEA

- ▶ Lifestyle changes, such as losing weight.
- ▶ Continuous positive airway pressure (CPAP) or a similar machine that uses positive airway pressure to help you breathe.
- ▶ Oral breathing devices or other devices (such as nasal dilators) that you wear at night.
- ▶ Medicine to help you stay awake during the day.
- ▶ Surgery.

RESOURCES

Sleep Education

www.sleepeducation.org

Sleep Apnea

www.sleepapnea.com

National Sleep Foundation

www.sleepfoundation.org

Patient Education

www.persante.com/patient-education