

# THE IMPORTANCE OF HEALTHY SLEEP

Disorders like Sleep Apnea, Periodic Limb Movement Disorder, Narcolepsy and Insomnia negatively impact your health.



It is estimated that Sleep Apnea affects approximately 40 million people, with **90%** going undiagnosed.



WAYNE  
HEALTHCARE



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# DID YOU KNOW?

## According to the National Heart, Lung, and Blood Institute:

- Approximately 42 million American adults suffer from sleep-disordered breathing (SDB)
- 1 in 5 adults has mild OSA (Obstructive Sleep Apnea)
- 1 in 15 has moderate to severe OSA (75% to 90% of severe SDB cases remain undiagnosed)
- 9% of middle-aged women suffer from OSA
- 25% of middle-aged men suffer from OSA

For more information visit [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov).

## Sleep apnea that goes untreated can worsen conditions such as:

- Coronary Artery Disease
- Hypertension
- Atrial Fibrillation
- Type-2 Diabetes
- Congestive Heart Failure
- Obesity
- Stroke
- Glaucoma



# ARE YOU AT RISK?

## The Epworth Sleepiness Scale

How likely are you to doze off or fall asleep in the following situations in contrast to feeling just tired? This refers to your usual way of life in recent times. Even if you have not done some of these things recently try to work out how they would have affected you.

Use the following scale to choose the most appropriate number for each situation:

0	Never Doze	1	Slight Chance of Dozing
2	Moderate Chance of Dozing	3	High Chance of Dozing

Situation	Chance of Dozing
Sitting and reading	
Watching TV	
Sitting, inactive in a public place (e.g. theatre or meeting)	
As a passenger in a car for an hour without a break	
Lying down in the afternoon when circumstances permit	
Sitting and talking to someone	
Sitting quietly after a lunch without alcohol	
In a car, while stopped for a few minutes in traffic	
<b>Total Points</b>	

Scoring Key	
1 - 6	Congratulations! You are getting enough sleep!
7 - 8	Your score is average.
9 - 14	Your daytime sleepiness is likely to be related to a sleep disorder. Please share this information with your provider.
15 +	Your daytime sleepiness is most definitely related to a serious health problem. Contact your provider immediately.

# ARE YOU AT RISK?

## STOP - BANG Sleep Apnea Questionnaire

If you scored a 9 or greater on the Epworth Sleepiness Scale, or have a family history of sleep apnea, you may be at risk. Answer the questions below yes or no, give yourself one point for each yes answer and 0 for each no answer.

<b>STOP (Snore, Tired, Observed, Pressure)</b>	
Do you <b>SNORE</b> loudly (louder than talking or loud enough to be heard through closed doors)?	
Do you often feel <b>TIRED</b> , fatigued, or sleepy during daytime?	
Has anyone <b>OBSERVED</b> you stop breathing, while sleeping?	
Do you have or are you being treated for high blood <b>PRESSURE</b> ?	
<b>BANG (BMI, Age, Neck, Gender)</b>	
<b>BMI</b> more than 35kg/m <sup>2</sup>	
<b>AGE</b> over 50 years old?	
<b>NECK</b> circumference > 16 inches (40cm)?	
<b>GENDER</b> : Male?	
<b>Total Points (STOP &amp; BANG)</b>	

<b>Scoring Key</b>	
0 - 2	Low risk, no action necessary.
3 - 4	Intermediate risk, share this information with your provider.
5 - 8	High risk, share this information with your provider immediately.
15 +	Your daytime sleepiness is most definitely related to a serious health problem. Contact your provider immediately.

# SLEEP DISORDERS

Sleep disorders do not just affect the sleep you get nightly, they also greatly impact your health. Good, quality sleep is necessary to your overall health and wellness.

Sleep disorders include:

- Sleep Apnea
- Restless Leg Syndrome & Periodic Limb Movement Disorder
- Narcolepsy
- Insomnia

Disorders that go untreated not only have a negative impact on your health, they can also be contributing factors for the development of diseases such as heart disease, hypertension, type-2 diabetes and obesity.



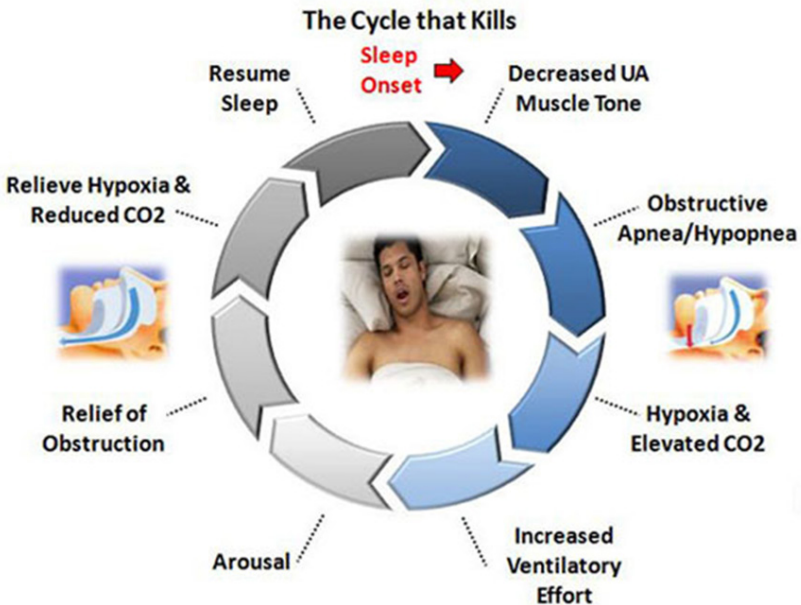
# SLEEP APNEA

## Sleep Apnea

Sleep apnea (AP-ne-ah) is a common disorder in which you have one or more pauses in breathing or shallow breaths while you sleep. Breathing pauses can last from a few seconds to minutes. They may occur 30 times or more an hour. Typically, normal breathing then starts again, sometimes with a loud snort or choking sound.

Sleep apnea usually is a chronic (ongoing) condition that disrupts your sleep. When your breathing pauses or becomes shallow, you'll often move out of deep sleep and into light sleep.

As a result, the quality of your sleep is poor, which makes you tired during the day. Sleep apnea is a leading cause of excessive daytime sleepiness.





# SLEEP APNEA

Sleep apnea often goes undiagnosed. Doctors can't detect the condition during routine office visits. Also, no blood test can help diagnose the condition. Most people who have sleep apnea don't know they have it because it only occurs during sleep. A family member or bed partner might be the first to notice signs of sleep apnea.

There are 3 different types of sleep apnea:

- Obstructive Sleep Apnea
- Central Sleep Apnea
- Mixed Sleep Apnea

## Symptoms

Those suffering with sleep apnea may experience different symptoms unique to their type of apnea. Symptoms that are common to all types include:

- Excessive daytime sleepiness (EDS)
- Morning headaches
- Depression
- Lack of energy
- Poor job/task performance
- Restless sleep

Symptoms unique to Obstructive Sleep Apnea include:

- Snoring
- Gasping for air
- Morning dry mouth
- Breathing pauses
- Excessive night sweating

# NARCOLEPSY

Narcolepsy is a chronic sleep disorder characterized by overwhelming daytime drowsiness and sudden attacks of sleep.

People with narcolepsy often find it difficult to stay awake for long periods of time, regardless of the circumstances. Narcolepsy can cause serious disruptions in your daily routine. People may unwillingly fall asleep even if they are in the middle of an activity like driving, eating, or talking.

Sometimes, narcolepsy can be accompanied by a sudden loss of muscle tone (cataplexy) that leads to weakness and loss of muscle control. Cataplexy is often triggered by a strong emotion, most commonly laughter.

Over 200,000 people in the United States have narcolepsy. Since this condition often goes undiagnosed, the number may be higher. People with narcolepsy are often misdiagnosed with other conditions, such as psychiatric disorders or emotional problems. It can take years for someone to get the proper diagnosis.

## What are the symptoms?

Symptoms can partially improve over time, but they will never disappear completely. The most typical symptoms are excessive daytime sleepiness, cataplexy, sleep paralysis, and hallucinations. Though all have excessive daytime sleepiness, only 10 to 25 percent of affected individuals will experience all of the other symptoms during the course of their illness.

- Excessive daytime sleepiness (EDS)
- Cataplexy
- Sleep paralysis
- Hallucinations

# NARCOLEPSY

## What are the different types of Narcolepsy?

Two major types of narcolepsy:

- Type 1 narcolepsy (previously termed narcolepsy with cataplexy). This diagnosis is based on the individual either having low levels of a brain hormone (hypocretin) or reporting cataplexy and having excessive daytime sleepiness on a special nap test.
- Type 2 narcolepsy (previously termed narcolepsy without cataplexy). People with this condition experience excessive daytime sleepiness but usually do not have muscle weakness triggered by emotions. They usually also have less severe symptoms and have normal levels of the brain hormone hypocretin.

There is also a condition known as secondary narcolepsy that can result from an injury to the hypothalamus, a region deep in the brain that helps regulate sleep. In addition to experiencing the typical symptoms of narcolepsy, individuals may also have severe neurological problems and sleep for long periods (more than 10 hours) each night.

## What treatments are available?

Although there is no cure for narcolepsy, some of the symptoms can be treated with medicines and lifestyle changes. When cataplexy is present, the loss of hypocretin is believed to be irreversible and lifelong. Excessive daytime sleepiness and cataplexy can be controlled in most individuals with medications.

## When to see a doctor

See your doctor if you experience excessive daytime sleepiness that disrupts your personal or professional life.

# RESTLESS LEG SYNDROME (RLS)

Restless Leg Syndrome (RLS) is perhaps the most common condition you have never heard of, affecting more people than even type 2 diabetes. Up to 7-8% of the population has this neurological condition with 2-3% experiencing severe symptoms that affect their quality of life and require pharmaceutical treatment to manage their symptoms.

These five essential features must be present for a correct diagnosis of restless legs syndrome (RLS):

- You have a strong urge to move your legs (sometimes arms and trunk), usually accompanied or caused by uncomfortable and unpleasant sensations in the legs.
- Your symptoms begin or become worse when you are resting or inactive, such as when lying down or sitting.
- Your symptoms get better when you move, such as when you walk or stretch, at least as long as the activity continues.
- Your symptoms are worse in the evening or night than during the day, or only occur in the evening or nighttime hours.
- Your symptoms are not solely accounted for by another condition such as leg cramps, positional discomfort, leg swelling or arthritis. RLS often causes difficulty in falling or staying asleep, one of the chief complaints of the disease. Many people who have RLS also have periodic limb movements (PLMs), which is the jerking of the arms or legs that is often associated with sleep disruption.



# PERIODIC LIMB MOVEMENT DISORDER (PLMD)

Periodic Limb Movement Disorder (PLMD) is a movement disorder which occurs during sleep and is characterized by periodic, repetitive foot, ankle, hip, or arm jerks that range from mild to violent. These movements usually occur as often as every 5 to 90 seconds in a consistent, regular pattern. Frequent arousals due to limb movements effect the quality of sleep. Although some people are not aware of the movements or sleep arousals, the sleep cycle is continuously being interrupted.

PLMD usually starts upon sleep onset and may subside by early morning around 4am. Some individuals who suffer from PLMD may also suffer from Restless Leg Syndrome. RLS is characterized by an uncomfortable creeping, crawling, or tingling sensation in the legs or arms. There is also often an urge or need to move the afflicted limb for relief. RLS usually occurs in the evenings prior to bedtime.

## Treatment

A number of medications have been shown to be effective in treating PLMD, but treatment is only necessary when PLMD are accompanied by RLS, insomnia or daytime fatigue. Treatment includes good sleep hygiene habits and medications prescribed by a physician to suppress movements and deepen sleep.

# INSOMNIA

Insomnia is a sleep disorder that is characterized by difficulty falling and/or staying asleep. People with insomnia have one or more of the following symptoms:

- Difficulty falling asleep
- Waking up often during the night and having trouble going back to sleep
- Waking up too early in the morning
- Feeling tired upon waking

## Types of Insomnia

Two types of insomnia:

- **Primary insomnia:** Primary insomnia means that a person is having sleep problems that are not directly associated with any other health condition or problem.
- **Secondary insomnia:** Secondary insomnia means that a person is having sleep problems because of something else, such as a health condition or lifestyle choice:
  - Asthma
  - Depression
  - Arthritis
  - Cancer
  - Heartburn
  - Pain
  - Medication
  - Substance Abuse

## Acute vs. Chronic Insomnia

Insomnia also varies in how long it lasts and how often it occurs. It can be short-term (acute insomnia) or can last a long time (chronic insomnia). It can also come and go, with periods of time when a person has no sleep problems. Acute insomnia can last from one night to a few weeks. Insomnia is called chronic when a person has insomnia at least three nights a week for a month or longer.

# SNORING

Snoring is the hoarse or harsh sound that occurs when your breathing is partially obstructed in some way while you're sleeping. Sometimes snoring may indicate a serious health condition. In addition, snoring can be a nuisance to your partner.

As many as half of the adult population sometimes snore. Snoring occurs when air flows past relaxed tissues in your throat, causing the tissues to vibrate as you breathe, which creates those irritating sounds.

Lifestyle changes, such as losing weight, avoiding alcohol close to bedtime or sleeping on your side, can help stop snoring. In addition, medical devices and surgery are available that may reduce disruptive snoring. However, these aren't suitable or necessary for everyone who snores.

Snoring is often associated with a sleep disorder called obstructive sleep apnea (OSA). Not all snorers have OSA, but if snoring is accompanied by any of the following symptoms, it may be an indication to see a doctor for further evaluation for OSA:

- Noise during sleep
- Restless sleep
- Difficulty concentrating
- Chest pain at night
- Sore throat
- Gasping or choking at night
- Morning headaches
- High blood pressure
- Your snoring is so loud it's disrupting your partner's sleep
- Excessive daytime sleepiness

# DIAGNOSTIC TESTING

## Sleep Study

A sleep study or overnight polysomnogram (PSG) is a test that records sleep and the bioelectrical signals coming from your body during sleep. Respiratory (breathing) monitoring during the PSG allows sleep specialists to rule out breathing problems during sleep as the reason for the disrupted sleep and excessive muscle activity.

## Continuous Positive Airway Pressure (CPAP) Titration Study

A Positive Airway Pressure (CPAP) Titration study is an overnight study that is done after a diagnosis of sleep apnea has been made. The purpose is to determine the appropriate pressure setting of the CPAP machine that will effectively treat the sleep apnea. The pressure that is delivered through the CPAP mask is gradually increased while the patient is sleeping until the pauses in breathing that occur with sleep apnea are under control.

## MSLT Study

Multiple Sleep Latency Test (MSLT) is a daytime sleep study that consists of five short nap trials that are scheduled two hours apart. The study measures a person's tendency to fall asleep. MSLTs determine whether isolated elements of REM sleep intrude at inappropriate times during the waking hours. MSLTs are generally used to evaluate for narcolepsy or other forms of hypersomnia.

## Home Sleep Testing (HST)

Home Sleep Testing (HST) is a diagnostic test that helps confirm the presence of moderate-to-severe OSA. The testing is done in the comfort of your home, instead of a sleep laboratory, using a portable sleep monitor. Importantly, this test is not recommended in patients with sleep disorders other than OSA or in patients with serious heart or lung disorders who require a more comprehensive overnight study in a sleep laboratory.



# DIAGNOSTIC TESTING

Once home sleep testing has been ordered, you will be scheduled for an appointment with one of our technologists to learn how to operate the device. The portable sleep monitor is easy to activate. It includes a recording device, sensors and belts and is powered by AA batteries. It records information, including your airflow, breathing effort, blood oxygen levels and snoring during your sleep. You will have the opportunity to practice applying the device with one of our sleep technologists so you are more comfortable using the equipment on your own. You will return the monitor the day after your study and the results will be sent to your referring physician within a week.

## Pulse Oximetry

Pulse oximetry is a screening test using a device that measures the oxygen saturation of arterial blood by utilizing a sensor attached typically to a finger to measure oxygen levels in the blood and heart rate.

Low oxygen levels are indicative of poor respiratory health and when worn during sleep, can be an easy effective tool to screen for sleep apnea. Your doctor will let you know if you need a sleep study based on the results of the pulse oximetry test.



# SLEEP APNEA TREATMENTS

## Continuous Positive Airway Pressure (CPAP)

With continuous positive airway pressure (CPAP), patients wear a mask over their nose and/or mouth and an air blower that provides a constant flow of pressure into the upper airway. Different types of pressure delivery are available based on the individual's needs, in order to prevent the upper airway tissues from collapsing during sleep and causing an obstruction.

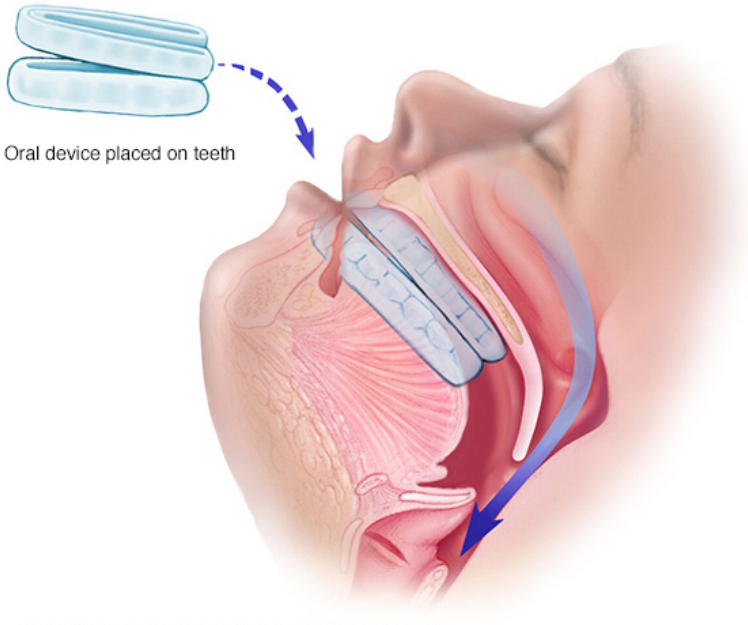
CPAP prevents airway closure while in use, but apnea episodes return if you discontinue use or if it is used improperly. Many types and styles of devices are available. A CPAP machine is usually small enough to fit on a night stand and is as quiet as a fan on low. The mask is specially fit to your face for optimal comfort.



# SLEEP APNEA TREATMENTS

## Oral Devices

These devices help prevent obstruction in the mouth and upper airway. Oral devices are most effective for patients who are diagnosed with mild to moderate obstructive sleep apnea.



## Surgery

There are several types of surgeries that may help sleep apnea such as tonsillectomy, adenoidectomy, or corrective surgery to repair malformations. UPPP or uvulopalatopharyngoplasty is a surgery that involves the removal of excess tissue in the throat. Not all people benefit from this surgery.

# - Sleep Health -

Sleep is an often over looked piece of the wellness puzzle, primarily because the prospect of changing your sleep habits isn't as exciting as beginning an exercise program or making changes to your diet. However, eating right and taking time to exercise won't pay near the dividends if you're not sleeping enough.

## 7-9

Most Adults need  
7 - 9 hours of sleep  
each night.



Not getting adequate  
sleep can negatively  
affect your:

Heart Rate  
Blood Sugar  
Blood Pressure  
Mental Health  
Stress Level

## TIPS TO A HEALTHIER NIGHTS REST



Avoid stimulants and alcohol close to bed time. Caffeine, nicotine and other stimulants make it difficult to fall asleep and stay asleep, and can disrupt natural sleep patterns.



Limit daytime naps to 30 minutes or less. Sleeping longer during naps makes it harder to fall asleep later.



Get natural sunlight to strengthen the body's adherence to the sleep-wake cycle. Natural light exposure will improve your likelihood of getting tired and ready for sleep.



Make your environment conducive to sleep. Minimize distractions. Keep a cool dark room. Wash sheets once a week.

# SLEEP SERVICES AT WAYNE HEALTHCARE

Wayne HealthCare is accredited by the American Academy of Sleep Medicine. Sleep studies are done on site for patients who are experiencing symptoms of a sleep disorder, and who were referred by their health care provider.

Sleep studies take place at the hospital in a private room where the patient can be monitored throughout the night. Sleep studies begin around 10:00pm and last until 7:00am the following day.

During the sleep study, the door to your room will be closed and the lights and television turned off. We do not allow cellular phones or pagers as this might disrupt your sleep. Your room is monitored with a video camera and a telecom to allow communication between yourself and the technician. Although you have many electrodes attached to your body for monitoring purposes, you will be able to get out of bed and use the restroom or get a drink.

The results of your sleep study will be available to you during your follow up visit with your health care provider.

For more information on sleep care, please call 866-320-8989.

## RESOURCES & REFERENCES

### Sleep Study

- [www.ncbi.nlm.nih.gov/pmc/articles/PMC4661454](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4661454)
- [www.nhlbi.nih.gov/health/health-topics/topics/sleepapnea/](http://www.nhlbi.nih.gov/health/health-topics/topics/sleepapnea/)
- [www.sleepfoundation.org/sleep-disorders-problems/sleep-related-movement-disorders/periodic-limb-movement-disorder](http://www.sleepfoundation.org/sleep-disorders-problems/sleep-related-movement-disorders/periodic-limb-movement-disorder)
- [www.mayoclinic.org/diseases-conditions/snoring/basics/definition/CON-2003187](http://www.mayoclinic.org/diseases-conditions/snoring/basics/definition/CON-2003187)
- [www.sleepeducation.org](http://www.sleepeducation.org)

# NOTES

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