

media fact sheet

SHIFT WORK DISORDER

What is shift work disorder (SWD)?

Shift work disorder (SWD) is a medical condition that can be diagnosed and treated by a doctor. Shift work disorder occurs when the body's internal sleep-wake clock is out of sync with the individual's work schedule—their body is telling them to go to sleep when their work schedule needs them to stay awake. Because of this disruption of the body's natural rhythm, people with shift work disorder often struggle to stay awake during their waking hours (excessive sleepiness), or have trouble sleeping during their sleeping hours (insomnia).

Who does shift work disorder affect?

Approximately 15 million Americans perform some type of nonstandard shift work—evening, night, irregular, rotating, or split shift. Studies have also shown that up to 45 percent of shift workers report symptoms of excessive sleepiness and/or insomnia, and approximately 10–25 percent of shift workers are estimated to have shift work disorder.

What types of professions require shift work?

A wide range of occupations require either permanent or occasional shift work	
Professional and business services such as accountants, stockbrokers, customer service reps, IT support staff and other people with corporate jobs	Healthcare professionals such as emergency room physicians, nurses and overnight pharmacists
Leisure, entertainment, and hospitality such as bartenders, servers, chefs, casino dealers, performers, radio DJs, concierges and doormen	Wholesale and retail trade such as warehouse workers, department store and other retail-store workers
Production and manufacturing such as steel, textile and other factory workers	Protective services such as firefighters, dispatchers and security guards

What are the symptoms of shift work disorder?

Symptoms of shift work disorder include insomnia during sleeping hours and excessive sleepiness during waking hours. Excessive sleepiness is defined as having trouble staying awake enough to do the things you usually do. Insomnia is trouble sleeping.

What are the potential consequences of shift work disorder?

Shift work disorder can potentially lead to other issues:

- Trouble focusing
- Sleepiness-related accidents
- Reduced work performance
- Missed family and social activities
- Increased irritability
- Worsening of heart and stomach disorders

How is shift work disorder diagnosed?

Shift work disorder is diagnosed by a doctor and does not require specialized testing. Your doctor may consider the criteria below to determine if you have shift work disorder:

- A persistent or recurrent pattern of sleep disruption leading to excessive sleepiness or insomnia that is due to a mismatch between the sleep-wake schedule required by a person's environment and his or her circadian sleep-wake pattern
- The sleep disturbance causes clinically significant distress or impairment of social, occupational, or other important areas of functioning
- The disturbance does not occur exclusively during the course of another sleep disorder or other mental disorder
- The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition
- Presence of insomnia during the major sleep period or excessive sleepiness during the major awake period associated with night shift work or frequently changing shift work



How is shift work disorder treated?

Only a change in shift work can resolve shift work disorder, but there are some things one can do to try to cope with shift work disorder symptoms:

- Planned napping before or during the night shift to improve alertness and performance
- Timed light exposure in the work environment to decrease sleepiness during night shift work
- Administration of melatonin prior to daytime sleep to promote daytime sleepiness
- Hypnotic medications may be used to promote daytime sleep
- Wake promoting agents to improve wakefulness during the night shift

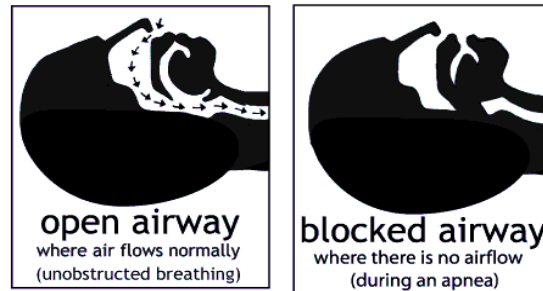
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OBSTRUCTIVE SLEEP APNEA

What is obstructive sleep apnea (OSA)?

Obstructive sleep apnea (OSA) is the most common sleep-related breathing disorder. It is a disorder in which a person repeatedly stops breathing for short periods of time during sleep, and can result in lower oxygen levels in the bloodstream.



What causes obstructive sleep apnea?

In obstructive sleep apnea, an interruption in breathing occurs when the tongue and the tissues at the back of the throat relax and completely block the airway to the lungs. It can also happen when nasal passages become blocked. This interruption in breathing can take place five to 30 times or more an hour.

Who does obstructive sleep apnea affect?

As many as 18 million Americans suffer from sleep apnea, but up to 90 percent of these people go undiagnosed. Although obstructive sleep apnea occurs in all age groups, it is most common in middle-aged adults, increases with age and affects men more than women.

Weight gain and the use of alcohol and medications that can cause relaxation of the airway prior to sleep can put patients at risk. A family history of obstructive sleep apnea is associated with a heightened risk for the disorder.

Who should be screened for OSA?

Individuals should be evaluated for obstructive sleep apnea if they have experienced or currently experience the following:

- Obesity (BMI > 35)
- Congestive heart failure
- Atrial fibrillation
- Treatment-refractory hypertension
- Type 2 diabetes
- Nocturnal dysrhythmias
- Stroke
- Pulmonary hypertension
- High-risk driving populations
- Preoperative for bariatric surgery

What are the symptoms of obstructive sleep apnea?

A primary symptom of obstructive sleep apnea is excessive sleepiness, which is defined as having trouble staying awake long enough to do the things you usually do.

Obstructive sleep apnea is also associated with loud snoring that is interrupted by periods of silence followed by gasps for air. The snoring is often so loud that it disturbs others sleeping nearby. Additional symptoms can include restless sleep and morning headaches.



What are the potential consequences of obstructive sleep apnea?

Cardiovascular disease and other comorbidities, including hypertension, heart failure, stroke and arrhythmias, are common consequences in patients with obstructive sleep apnea. If left untreated, a person with obstructive sleep apnea can have an increased risk for other comorbidities, such as depression and diabetes/metabolic syndrome, as well as be at increased risk for mortality.

How is obstructive sleep apnea diagnosed?

A thorough physical examination may cause a physician to suspect obstructive sleep apnea. A diagnosis of obstructive sleep apnea can only be made by the polysomnography (PSG). Home sleep tests are also available. The PSG is most commonly an overnight test performed in a sleep clinic. During this test, disruptions in sleep/wake patterns (electrical activity of the brain and heart rate) and breathing (air flow, blood oxygen levels) are measured. The test records the number of times breathing is interrupted during the night to determine the severity of sleep apnea.

How is obstructive sleep apnea treated?

Prompt and proper diagnosis of sleep apnea is an important first step in treating the disorder. Once diagnosed, treatments to help manage the symptoms of obstructive sleep apnea include:

- Mild obstructive sleep apnea can sometimes be overcome through weight loss or by preventing the patient from sleeping on his or her back
- Continuous positive airway pressure (CPAP), a machine that is designed to keep the airway open during sleep by blowing air through a mask placed over the nose and mouth, is the most common treatment for moderate to severe sleep apnea in adults
- Oral appliances which work by manipulating the jaw and/or tongue positioning to open the airway
- There are currently no pharmacologic treatments for the underlying obstruction associated with obstructive sleep apnea, but surgery may be performed to remove excess tissue in the throat in order to widen the airway
- Wake-promoting agents may improve wakefulness in patients experiencing excessive sleepiness associated with treated obstructive sleep apnea

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NARCOLEPSY

What is narcolepsy? Narcolepsy is a chronic neurological sleep disorder that is characterized by repeated irresistible attacks of refreshing sleep, resulting in unintended sleep in inappropriate situations, cataplexy and recurrent interruptions of elements of rapid eye movement (REM) sleep into the transition period between sleep and wakefulness.

Cataplexy, which occurs in approximately 70 percent of individuals with narcolepsy, is a loss of muscle tone that leads to feelings of weakness and loss of voluntary muscle control.

What causes narcolepsy? The cause of narcolepsy is not known. However, it is believed that narcolepsy with cataplexy may be caused by the body's immune system mistakenly destroying the brain cells involved in regulating the sleep-wake cycle.

Who does narcolepsy affect? Narcolepsy occurs in approximately one in every 2,000 Americans, affecting men and women equally, and the disorder may affect a larger segment of the population than currently estimated due to misdiagnosed or undiagnosed patients.

Narcolepsy usually starts in adolescence. Commonly, diagnosis can be delayed 10 to 15 years after the first symptoms appear. This unusually long lag-time to diagnosis is due to several factors, including the disorder's subtle onset and the variability of symptoms.

What are the symptoms of narcolepsy?

- **Excessive daytime sleepiness**—Consistent inability to stay awake enough to safely and successfully accomplish tasks of daily living. Impairments resulting from excessive sleepiness can include difficulty concentrating, memory lapses, low energy and depressed mood. Left untreated, excessive sleepiness resulting from narcolepsy can be incapacitating and result in accidents, isolation or social problems. Daytime sleepiness is almost always the first symptom of narcolepsy and usually becomes clinically significant during adolescence.
- **Cataplexy**—Brief episodes of muscle weakness or paralysis often precipitated by strong emotion such as laughter, anger or excitement. Cataplexy affects approximately 70 percent of narcolepsy patients.
- **Sleep paralysis**—Temporary inability to move during sleep onset or awakening. Sleep paralysis occurs in 30 to 50 percent of narcolepsy patients.
- **Hallucinations**—Vivid, dreamlike experiences that occur during sleep onset (hypnagogic) or awakening (hypnopompic) and are difficult to distinguish from reality; experiences are frequently frightening. Hallucinations occur in 20 to 40 percent of narcolepsy patients.

How is narcolepsy diagnosed? The diagnosis is made by taking a careful patient history and ensuring that the patient meets the following criteria:

Narcolepsy Without Cataplexy:

- The patient has a complaint of excessive daytime sleepiness occurring almost daily for at least three months
- Typical cataplexy is not present, although doubtful or atypical cataplexy-like episodes may be reported
- The diagnosis of narcolepsy without cataplexy must be confirmed by a sleep study
- The hypersomnia is not better explained by another sleep disorder, medical or neurological disorder, mental disorder, medication use, or substance use disorder

Narcolepsy With Cataplexy:

- The patient has a complaint of excessive daytime sleepiness occurring almost daily for at least three months
- A definite history of cataplexy is present
- The diagnosis of narcolepsy with cataplexy should, whenever possible, be confirmed by a sleep study or by a lumbar puncture (spinal tap)
- The hypersomnia is not better explained by another sleep disorder, medical or neurological disorder, mental disorder, medication use, or substance use disorder

Two tests performed during a sleep study are considered standard: the overnight polysomnography (PSG) and the multiple sleep latency test (MSLT). The overnight PSG is a test that can indicate whether REM sleep occurs at abnormal times in the sleep cycle. The MSLT is performed during the day to determine the patient's tendency to fall asleep.

How is narcolepsy treated?

Narcolepsy cannot be cured, but medications can help control its most disabling symptoms in most patients.

The following are treatment options for narcolepsy:

- Amphetamine, methamphetamine, dextroamphetamine, and methylphenidate for treatment of daytime sleepiness
- Tricyclic antidepressants, selective serotonin reuptake inhibitors (SSRIs), venlafaxine, and reboxetine may be effective treatment for cataplexy
- Non-amphetamine wake-promoting agents for treatment of daytime sleepiness
- Sodium oxybate may be effective for treatment of cataplexy, daytime sleepiness, and disrupted sleep due to narcolepsy
- Scheduled naps can be beneficial to combat sleepiness but seldom suffice as primary therapy for narcolepsy

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