

Sleep Disorders Reference Manual

Introduction: Sleep is a behavioral state that is a normal part of every individual's life. In general, we spend about one-third of our lives asleep. Problems with sleep are widespread. A 1999 poll conducted by the National Sleep Foundation found that most Americans are sleep deprived, getting on average one hour less sleep per night than the eight hours that are recommended. Sleep problems affect the ability to think, to perform, and to remain healthy.

Problems with sleep can be due to lifestyle choices and can result in problem sleepiness, that is, feeling sleepy at inappropriate times. Environmental noise, temperature changes, changes in sleeping surroundings, and other factors may affect our ability to get sufficient restful sleep. Short-term problem sleepiness may be corrected by getting additional sleep to overcome the sleep deficit. In other cases, problem sleepiness may indicate a sleep disorder requiring medical intervention. More than 70 sleep disorders have been described. This manual describes some of them, listed in alphabetical order.

Insomnia: This is the most prevalent sleep disorder. Insomnia is the perception of inadequate sleep due to difficulty falling asleep, waking up frequently during the night, waking up too early, or feeling unrefreshed after waking. Insomnia is more common in women than men and tends to increase with age. Short-term and transient (that is, it comes and goes) insomnia may be caused by emotional or physical discomfort, stress, environmental noise, extreme temperatures, or jet lag, or it may be the side effect of medication. Chronic insomnia may result from a combination of physical or mental disorders, undiagnosed or uncontrolled sleep disorders (such as sleep apnea, restless legs syndrome, narcolepsy, or circadian rhythm disorders), and effects of prescription or nonprescription medications.

Treatments: Treatment is generally tailored to meet the needs of the individual. First, any medical or psychological problems must be identified and treated. Additionally, behaviors that may contribute to or worsen insomnia must be identified. Treatment may include behavioral modification (such as learning to relax or learning to associate the bed and bedtime with sleep), following good sleep hygiene practices (such as following a specific nighttime routine, reducing caffeine and alcohol intake, or reducing afternoon napping), and light therapy.

Pharmacological treatments may alleviate symptoms in specific cases. Some individuals try to overcome the problem of insomnia by drinking alcohol-containing beverages. Alcohol inhibits REM sleep, disrupts sleep during the last part of the night, and does not promote good sleep.

Narcolepsy: Narcolepsy is a chronic sleep disorder that usually becomes evident during adolescence or young adulthood and can strike both men and women. In the United States, it affects as many as 200,000 people, although fewer than 50,000 are diagnosed. The main characteristic of narcolepsy is excessive and overwhelming daytime sleepiness (even after adequate nighttime sleep). A person with narcolepsy is likely to suddenly become drowsy or fall asleep, often at inappropriate times and places. Daytime sleep attacks may occur with or without warning and may be irresistible. In addition, nighttime sleep may be fragmented. Three other classic symptoms of narcolepsy, which may not occur in all people with the disorder, are cataplexy (sudden muscle weakness triggered by emotions such as anger, surprise, laughter, and exhilaration), sleep paralysis (temporary inability to talk or move when falling

asleep or waking up), and hypnagogic hallucinations (dreamlike experiences that occur while dozing or falling asleep). People with narcolepsy can fall asleep quickly at any time during any activity. Narcolepsy is not the same as simply becoming tired or dozing in front of the TV after a day's work.

Treatments: Although there is no cure yet for narcolepsy, treatment options are available to help reduce the various symptoms. Treatment is individualized depending on the severity of the symptoms, and it may take weeks or months for the best regimen to be worked out. Treatment is primarily through medications, but lifestyle changes are also important. Medications for narcolepsy have unpleasant side effects and some patients opt to take frequent naps, allowing them to reduce the dosages of their medications. Recently, researchers discovered a gene for narcolepsy in dogs, which opens the door to identifying narcolepsy gene in humans. This may lead to developing new treatments and possibly a cure for this disabling sleep disorder.

Obstructive Sleep Apnea: Obstructive sleep apnea (OSA) is a serious disorder of breathing during sleep that is potentially life-threatening. OSA is characterized by a repeated collapse of the upper airway during sleep and, as a result, the cessation of breathing. These breathing pauses may occur 20 to 30 times per hour throughout the night, and each one may last from 10 seconds to 2 minutes. This decreases the amount of oxygen available to the sufferer. Virtually all sleep apnea patients have a history of loud snoring, although not everyone who snores has OSA. They also have frequent arousals during the night, resulting in excessive daytime sleepiness. It is estimated that approximately 12 million Americans have OSA, which can occur in children as well as adults.

People at high risk for OSA are those who have chronic, loud snoring and excessive daytime sleepiness and are observed to have gasping, choking, or no-breathing episodes during sleep. Additional risk factors include obesity and high blood pressure. Also, people who have OSA are at special risk for developing high blood pressure, which is a major risk factor for cardiovascular diseases.

Treatments: The most common treatment is continuous positive airway pressure, or CPAP. This procedure involves wearing a medical mask over the nose during sleep. The mask is connected to a hose that is connected to a unit that produces a constant push of air. The flow of air can be controlled so that the nasal passages and the trachea don't collapse during sleep. Surgical procedures may be used to enlarge the nasal cavity, correct a physical problem like a deviated septum, or remove excess tissue in the throat (including tonsils). Also helpful may be behavior modification, including weight loss, avoiding alcohol before sleep, and avoiding an on-the-back sleeping position.

Parasomnias: These arousal disorders are characterized by behaviors and experiences that occur during sleep. Generally, though not always, they are mild and occur infrequently. Two examples of parasomnias are provided.

1. **Sleepwalking (somnambulism):** This disorder is characterized by walking or moving about during sleep. Objects may be carried from one place to another for no apparent reason. These behaviors occur during NREM sleep, typically in the first third of the night. Sleepwalking is more common in children than in adolescents or adults. Children affected by sleepwalking usually have no memory of such events. Sleepwalking is more common in children whose families have a history of this behavior. This suggests that genes play a role in this sleep disorder.

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Treatments: Those suffering from sleepwalking may do the following:

- Get enough rest, since being overtired can trigger a sleepwalking episode.
- Unwind before bedtime, because stress also can trigger sleepwalking.
- Maximize the safety of the sleeping environment.
- Consult a specialist for a complete evaluation.

2. **REM Motor Behavior Disorder:** Patients with this sleep disorder, which occurs during REM sleep, experience episodes in which they act out some or all of their dreams. The dreams generally are vivid, intense, and action-packed, and they may be violent. More than 85 percent of those with this disorder are older men (the average age of onset is in the early 50s), although it can affect both females and males of any age.

Treatments: Medication and ensuring a safe sleeping environment.

Restless Legs Syndrome: Restless legs syndrome (RLS) is a neurologic movement disorder that is often associated with a sleep complaint. RLS may affect up to 15 percent of the population. People with RLS suffer an almost irresistible urge to move their legs, usually due to disagreeable leg sensations that are worse during inactivity and often interfere with sleep. RLS sufferers report experiencing creeping, crawling, pulling, or tingling sensations in the legs (or sometimes the arms), which are relieved by moving or rubbing them. Sitting still for long periods becomes difficult; symptoms are usually worse in the evening and night and less severe in the morning. Periodic leg movements, which often coexist with restless legs syndrome, are characterized by repetitive, stereotyped limb movements during sleep. Periodic limb movement disorder can be detected by monitoring patients during sleep.

Treatments: Some people with mild cases of restless legs syndrome can be treated without medication through exercise, leg massages, and by eliminating alcohol and caffeine from the diet. Others may require pharmacological treatment, and it may take some time for the right medication or combination of medications to be determined for the individual.