

Sleep and Sleep Disorders

While we often consider sleep to be a “passive” activity, sufficient sleep is increasingly being recognized as an essential aspect of health promotion and chronic disease prevention in the public health community.

Insufficient sleep is associated with a number of chronic diseases and conditions - such as diabetes, cardiovascular disease, obesity, and depression - which threaten our nation’s health.

Notably, insufficient sleep is associated with the onset of these diseases and also poses important implications for their management and outcome. Moreover, insufficient sleep is responsible for motor vehicle and machinery-related accidents, causing substantial injury and disability each year. In short, drowsy driving can be as dangerous—and preventable—as driving while intoxicated.

More than one-quarter of the U.S. population report occasionally not getting enough sleep, while nearly 10% experience chronic insomnia. However, new methods for assessing and treating sleep disorders bring hope to the millions suffering from insufficient sleep. Fundamental to the success of all of these efforts is the recognition that sufficient sleep is not a luxury—it is a necessity—and should be thought of as a “vital sign” of good health.

Sleep Hygiene Tips

The promotion of regular sleep is known as *sleep hygiene*. The following is a list of sleep hygiene tips which can be used to improve sleep. Also included is a list of special relevance to adolescents, who may experience sleep difficulties due to *circadian rhythm* changes occurring during the teenage years and into young adulthood.

Adults:

1. Go to bed at the same time each night and rise at the same time each morning.
2. Make sure your bedroom is a quiet, dark, and relaxing environment, which is neither too hot nor too cold.
3. Make sure your bed is comfortable and use it only for sleeping and not for other activities, such as reading, watching TV, or listening to music. Remove all TVs, computers, and other “gadgets” from the bedroom.
4. Physical activity may help promote sleep, but not within a few hours of bedtime.
5. Avoid large meals before bedtime.



Adolescents/Young Adults:

1. Avoid caffeinated drinks after lunch.
2. Avoid bright light in the evening.
3. Avoid arousing activities around bedtime (e.g., heavy study, text messaging, getting into prolonged conversations).
4. Expose yourself to bright light upon awakening in the morning.
5. While sleeping in on weekends is permissible, it should not be more than 2–3 hours past your usual wake time, to avoid disrupting your *circadian rhythm* governing sleepiness and wakefulness.
6. Avoid pulling an “all-nighter” to study.



(continued)

Key Sleep Disorders

Sleep-related difficulties affect many people. The following is a description of some of the major sleep disorders. If you, or someone you know, is experiencing any of the following, it may be important to receive an evaluation by a healthcare provider or, if necessary, a provider specializing in sleep medicine.

Insomnia

Insomnia is characterized by an inability to initiate or maintain sleep. It may also take the form of early morning awakening in which the individual awakens several hours early and is unable to resume sleeping. Difficulty initiating or maintaining sleep may often manifest itself as excessive daytime sleepiness, which characteristically results in functional impairment throughout the day. Before arriving at a diagnosis of primary insomnia, the healthcare provider will rule out other potential causes, such as other sleep disorders, side effects of medications, substance abuse, depression, or other previously undetected illness. Chronic psychophysiological insomnia (or “learned” or “conditioned” insomnia) may result from a stressor combined with fear of being unable to sleep. Individuals with this condition may sleep better when not in their own beds. Health care providers may treat chronic insomnia with a combination of use of sedative-hypnotic or sedating antidepressant medications, along with behavioral techniques to promote regular sleep.

Narcolepsy

Excessive daytime sleepiness (including episodes of irresistible sleepiness) combined with sudden muscle weakness are the hallmark signs of narcolepsy. The sudden muscle weakness seen in narcolepsy may be elicited by strong emotion or surprise. Episodes of narcolepsy have been described as “sleep attacks” and may occur in unusual circumstances, such as walking and other forms of physical activity. The healthcare provider may treat narcolepsy with stimulant medications combined with behavioral interventions, such as regularly scheduled naps, to minimize the potential disruptiveness of narcolepsy on the individual’s life.

Restless Legs Syndrome (RLS)

RLS is characterized by an unpleasant “creeping” sensation, often feeling like it is originating in the lower legs, but often associated with aches and pains throughout the legs. This often causes difficulty initiating sleep and is relieved by movement of the leg, such as walking or kicking. Abnormalities in the neurotransmitter dopamine have often been associated with RLS. Healthcare providers often combine a medication to help correct the underlying dopamine abnormality along with a medicine to promote sleep continuity in the treatment of RLS.

Sleep Apnea

Snoring may be more than just an annoying habit – it may be a sign of sleep apnea. Persons with sleep apnea characteristically make periodic gasping or “snorting” noises, during which their sleep is momentarily interrupted. Those with sleep apnea may also experience excessive daytime sleepiness, as their sleep is commonly interrupted and may not feel restorative. Treatment of sleep apnea is dependent on its cause. If other medical problems are present, such as congestive heart failure or nasal obstruction, sleep apnea may resolve with treatment of these conditions. Gentle air pressure administered during sleep (typically in the form of a nasal continuous positive airway pressure device) may also be effective in the treatment of sleep apnea. As interruption of regular breathing or obstruction of the airway of the individual during sleep can pose serious complications for the health of the individual, symptoms of sleep apnea should be taken seriously.

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