

Sleep Disorders in the Older Child and Teen

FACTS ABOUT PEDIATRIC SLEEP DISORDERS FROM CLEVELAND CLINIC

Children spend a substantial part of their lives asleep. In fact, in infancy and early childhood, the developing brain seems to need more time asleep than awake. This underscores the importance of sleep to the overall well-being of a child. Teenagers need between 8.50 and 9.25 hours of sleep each night – much more than commonly believed. As a comparison, children ages 5 through 12 need between 10 and 11 hours of sleep per night, while adults need 7 to 9 hours.

Adolescents and older children may suffer from lack of sleep simply by not sleeping an adequate number of hours, or they may lack good-quality sleep. With the typical school and after-school activities, homework and evening activities (e.g., TV watching and Internet involvement), a lot goes on in the older child's life. Add weekend social obligations and, perhaps, a job, and you have a recipe for sleep deprivation.

Late bedtime hours are not, however, due solely to these activities. With the onset of puberty, adolescents begin to experience a delay in the “phase” of their biological clock. As a result, they fall asleep later in the evening, which makes it more difficult for them to wake up in time for school. In fact, the timing of the release of the sleep hormone, melatonin, is delayed. No wonder then, despite being sleep deprived, adolescents cannot seem to fall asleep earlier in the evening, even if forced to their bedrooms.

Although the scientific literature on childhood sleep disorders is advancing rapidly, gaps remain in the delivery of this knowledge to the end user: the child. For instance, only about half the physicians who care for children address sleep-related issues in their clinics, and well-trained pediatric sleep specialists are still a rarity.

What are the implications of a sleep disorder?

Sleep disorders may lead to inability to get up in time for school, daytime moodiness, irritability, lack of focus in class, and significant behavioral and learning problems. Substance abuse and absenteeism are known to occur. Some sleep disorders are serious enough to cause adverse cardiovascular and metabolic effects.

How common are sleep problems?

Sleep disorders are common in children and adolescents, but often are under-recognized. Sleep disturbances in some form are seen in as many as 30 percent of children. Biological clock delays can be seen in more than 10 percent of teens. Sleep disorders may range from insufficient sleep, insomnia and sleepwalking to sleep apnea, restless legs and narcolepsy. These disorders manifest as symptoms that may mislead the casual observer. It is common to misdiagnose mood, attention or motivational problems and miss the underlying sleep problem.

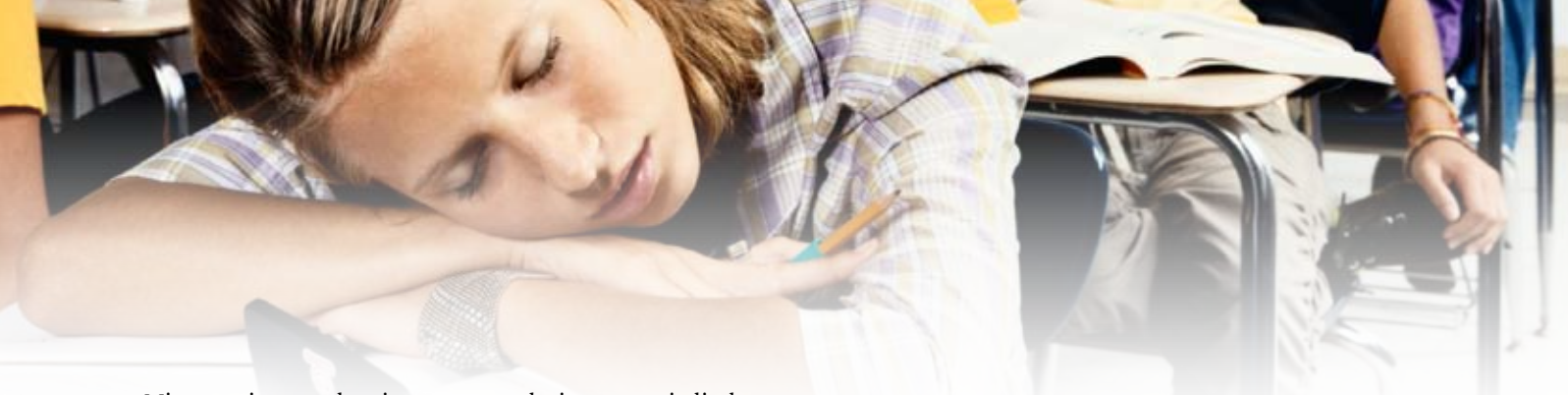
What causes sleep disorders in children?

The cause of sleep disorders is not always clear; sometimes, more than one reason may be a factor. Some sleep disorders are considered developmental. For example, nighttime settling issues are common in infants and toddlers, while sleep terrors and sleepwalking are seen in older children. These disorders often resolve with time, and require intervention only if they are particularly alarming in frequency or worrisome in behavior complexity.

In other disorders, an inherited component plays a strong role. These may include restless legs, bedwetting and sleep apnea. Sleep apnea in premature babies usually goes away with maturity. This differs from sleep apnea in the older, snoring child, in whom large adenoids and tonsils, abnormal dentition, upper airway allergies, craniofacial abnormalities and obesity may play significant roles.

What are the most common sleep disorders in older children/teens?

- insufficient sleep
- circadian (biological clock) rhythm disorders
- insomnia
- snoring
- sleep apnea
- narcolepsy
- movement disorders like restless legs syndrome
- sleepwalking
- bedwetting



Micronutrients such as iron appear to be important in limb movement disorders. Many other sleep disorders, including insomnia and daytime sleepiness, can be influenced by external factors such as the home and bedroom environment (TV, cell phones, electronic gaming), social stress, medications (including drugs of abuse), and by substances like caffeine and nicotine.

Psychiatric, neurological and developmental disorders, if present, often interplay intimately with sleep problems. Sometimes, treating one sleep disorder (e.g., sleep apnea) may benefit another (sleepwalking or bedwetting).

How can I determine if my child has a sleep disorder?

If your child has difficulty sleeping, discuss the matter with your pediatrician. Your child may benefit from a referral to a pediatric sleep physician to further investigate the problem.

At Cleveland Clinic, our pediatric sleep specialists will conduct a thorough medical and sleep history as well as a physical examination to identify any medical problems.

In some cases, it may be necessary to observe your child overnight in our sleep laboratory. Here, in a comfortable, bedroom-like setting that allows the parent to room in, children are able to sleep without much difficulty while a polysomnogram test is conducted. This test records brain activity, eye movement, muscle activity, tissue oxygen, carbon dioxide, oral-nasal airflow and breathing patterns in sleep.

You can watch a video that explains the polysomnogram test on our website at clevelandclinic.org/pediatricsleep.

When narcolepsy is suspected in children with excessive daytime sleepiness, we also administer a multiple sleep latency test (MSLT). This test provides an objective measure of daytime sleepiness. It usually follows the overnight polysomnogram, and involves five sequential daytime nap opportunities at two-hour intervals. If your child has been asked to undergo this test, you should be prepared to arrive the previous night (for the overnight polysomnogram test) and stay until evening of the next day.

Other tools your sleep doctor may use include actigraphy (a small motion detector device worn on the wrist to assess sleep-wake rhythms) and sleep logs. Sometimes, blood and urine and, very rarely, spinal fluid or genetic tests may be ordered.

How do you treat sleep disorders?

Sleep disorder treatment depends on the cause. In general, sleep disorders can be treated in a variety of ways, including surgery (for obstructive sleep apnea), micronutrient supplementation, bright light therapy or medication. Behavioral techniques and adjustment of sleep schedules can be helpful in managing many sleep disorders. Psychosocial issues may not only be the cause of sleep disorders, but the result as well. Therefore, it is not surprising that psychological, cognitive and behavioral interventions, with or without medications, can be beneficial in some cases.

CLEVELAND CLINIC'S PEDIATRIC SLEEP PROGRAM

Cleveland Clinic's Sleep Disorders Center has been a center of excellence in clinical care for more than 20 years, and is accredited by the American Academy of Sleep Medicine. The Pediatric Sleep Disorders Program specializes in treating infants, children and adolescents with a broad range of sleep problems. Specialists in pediatric sleep medicine; child psychology; pediatric neurology/epileptology; pediatric pulmonary and critical care medicine; and ear, nose and throat surgery participate in the care of children with sleep disorders. Cleveland Clinic's Pediatric Sleep Disorders Program is led by Jyoti Krishna, MD, who is board-certified in both sleep medicine and pediatrics.

Signs of sleep deprivation include:

- excessive daytime sleepiness, inattention, tardiness
- irritability, hyperactivity, depression, impatience, mood swings, low self-confidence, low tolerance for frustration and other impulse control problems
- falling grades and reports of drowsy driving

To make an appointment for an evaluation with a Cleveland Clinic sleep medicine specialist, please call **216.444.5559** or toll free **1.800.223.2273, ext. 45559**.

To learn more about Cleveland Clinic's Sleep Disorders Center, visit us online at clevelandclinic.org/sleep.