

# TEENS & SLEEP

“One of the more common complaints I hear from parents is that their teenagers won’t go to sleep until after midnight and then sleep until 2 or 3 o’clock in the afternoon on Saturdays and Sundays,” said Shalini Paruthi, M.D., pediatric sleep specialist at SSM Cardinal Glennon Children’s Medical Center.

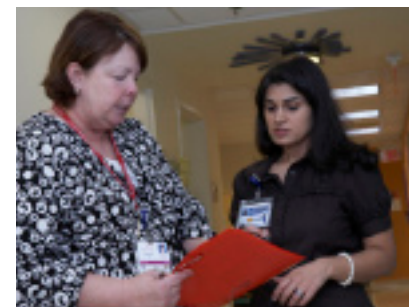
If teenagers can’t fall asleep until midnight but have to wake up at six in the morning for school, they just don’t get enough sleep,” said Paruthi, co-director of the Pediatric Sleep and Research Center at Glennon and an assistant professor of pediatrics at Saint Louis University School of Medicine.

The teen years bring many barriers to the nine hours of sleep an adolescent should log each night. The typical teenager’s day may be filled with too many things to accomplish, too many enticing electronic gadgets and too much energy drink loaded with caffeine and sugar. Adolescence also is accompanied by a physiological shift that makes it more difficult to fall asleep at a reasonable hour.

Children are subject to the same sleep disorders as adults along with others that are unique to childhood, Paruthi said, and adolescents hit the pillow with an added challenge.

“People have a genetic tendency to be morning larks or night owls. In the teen years we sometimes see delayed sleep phase syndrome. Around the time we reach puberty we all experience a slight change in our internal clocks,” she said. “For most of us, the internal clock only shifts later by about an hour. For some the shift is much larger.”

If the teen’s shrinking sleep window results in sleep deprivation, the short



Diane Roth, R.N. reviews a file with Dr. Paruthi.



Dr. Paruthi And Michelle Perry, REEGT.

nights may lead to problems with memory, concentration and school performance. Risk-taking behaviors may increase. The ability to execute "performance-vigilance" tasks, such as driving a car, may diminish.

"Adolescents used to be making straight A's are now making B's and C's," Paruthi said. "Sleep deprivation also can impact mood and behavior, so teens begin to have poor interactions with family members or get in trouble at school, even leading to detentions or being expelled. One of my patients said he had a car accident at age 16 because he was too sleepy."

A study published last year in the *Journal of Clinical Sleep Medicine* suggested that auto accident rates could be decreased if teens were allowed to start school at a time that better matched their internal body clocks. The researchers tracked 10,000 teens in Kentucky and found that their risk of involvement in an auto crash declined 16.5 percent after their high school started its day one hour later.

"We also can see physical consequences from a lack of sleep," Paruthi said. "Many teens develop circles around their eyes or gastrointestinal side effects from the fatigue or stress they encounter."

There are many medical conditions that can cause sleep disorders.

"The most common sleep disorders I see in adolescents include insufficient sleep, poor sleep hygiene, insomnia, obstructive sleep apnea, restless leg syndrome, narcolepsy

and circadian rhythm shifts. We sometimes see bedwetting in the teen years," Paruthi said.

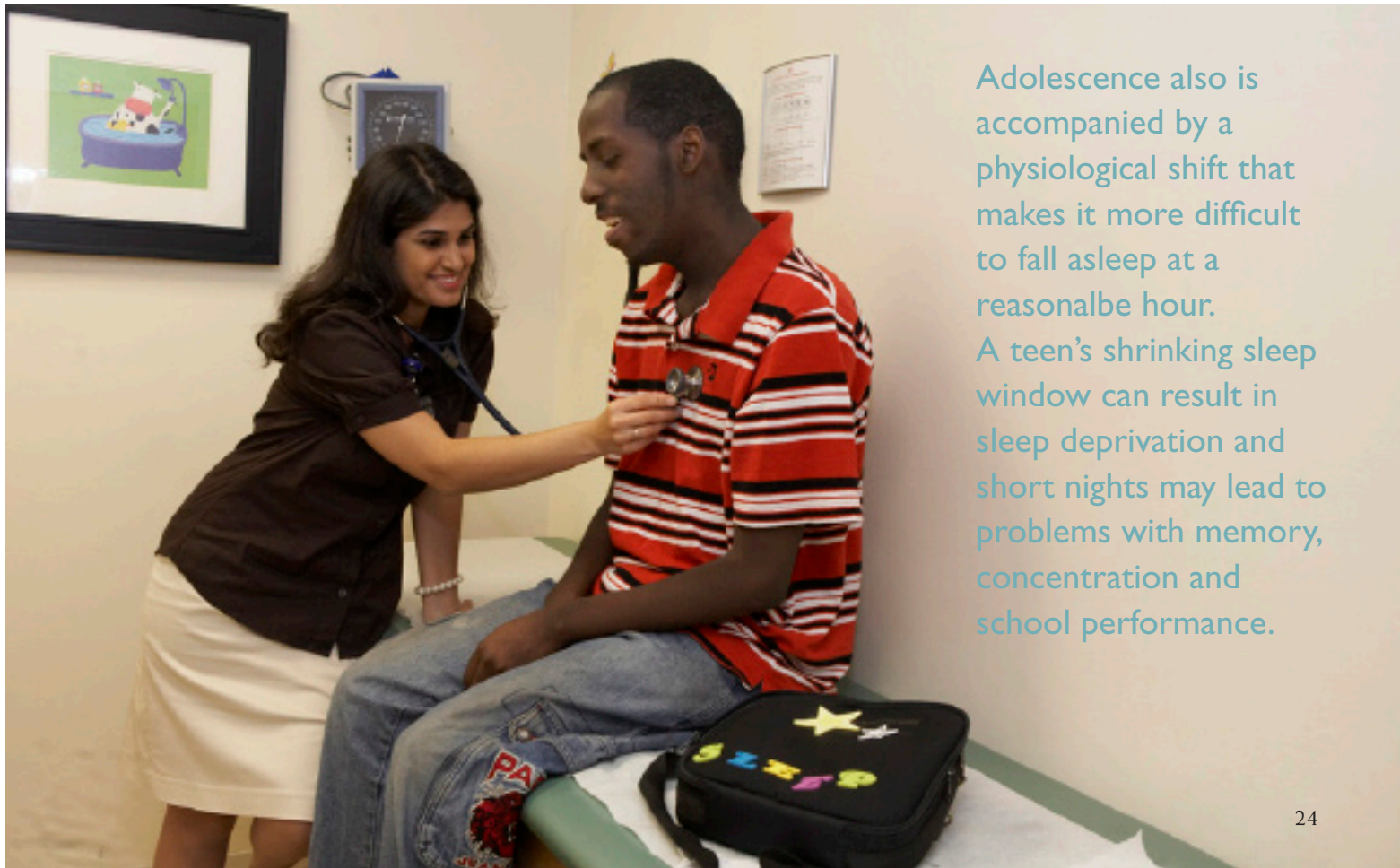
"We often see teenagers with insomnia who can't fall asleep because they are anxious about common daily life stressors or have other medical disorders such as depression or restless leg syndrome, in which the urge to move their legs keeps them from falling asleep. Other kids may be able to fall asleep but can't stay asleep through the night, especially if they have disrupted breathing such as in obstructive sleep apnea."

Adolescents suspected of having a physiological sleep disorder may be diagnosed by spending a night in the sleep clinic at Glennon where functions such as respiration, muscle movements and brain waves are monitored. The

Examples of masks that are used in the treatment of obstructive sleep apnea.



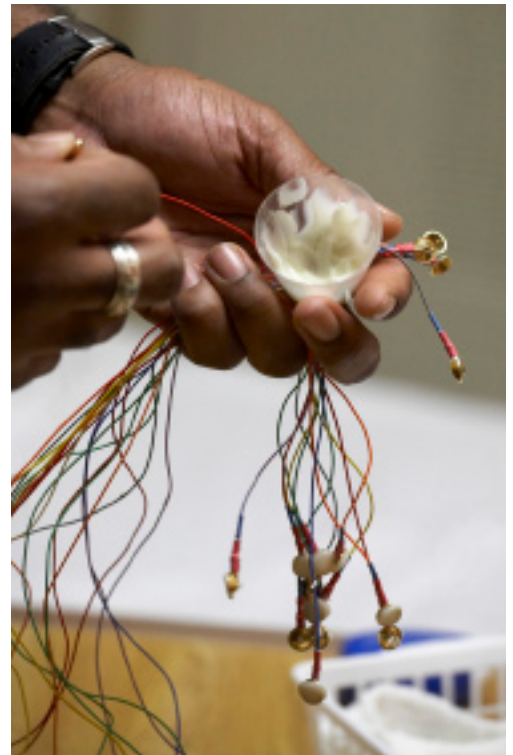
Dr. Paruthi with Jared Harris.



Adolescence also is accompanied by a physiological shift that makes it more difficult to fall asleep at a reasonable hour. A teen's shrinking sleep window can result in sleep deprivation and short nights may lead to problems with memory, concentration and school performance.



Lab technicians Charles Bright and Jen Griggs prepare patient Haleigh Payne for the sleep clinic.



A close-up of the electrodes that are attached during testing.

study may help in the diagnosis of breathing disorders that occur during sleep or of other episodes of abnormal behavior such as seizures.

Before a sleep study is prescribed, a teen may be asked to keep a sleep log for a few weeks. Many times, the recommendation is simply better daily and nightly habits.

"Often, teaching teens good sleep hygiene and relaxation techniques can have a significant impact in the quality and quantity of their sleep," Paruthi said.

Paruthi and sleep nurse Diane Roth recently participated in a high school class project in which 20 juniors from Mary Institute Country Day School visited the sleep lab and listened to a presentation on sleep deprivation.

"The students asked excellent questions, developed a greater understanding of how sleep affects their bodies and mental performance and were provided with individual ideas to improve their sleep at night," Paruthi said.

Mom and Dad also may play a role in sleep hygiene.

"Parenting can make a very big difference by helping teens learn good sleep habits and enforcing good sleep hygiene by setting limits. Parents may reduce their teen's sleep deficit by helping their child develop a consistent schedule and bedtime routine. There should be set times for going to bed and waking

up every day. On Friday nights and Saturday nights it is reasonable to vary bedtime, but ideally by not more than one or two hours."

Limits on electronic devices and stimulants such as energy drinks and chocolate also promote good sleep hygiene.

"Sometimes parents tell us they thought their child had gone to bed, but the child was watching television, playing video games or texting on a cell phone behind a closed door in their room," Paruthi said. "I am surprised by how many teens fall asleep with the TV on. Television is disruptive to sleep in many ways – the light of the screen is bright and fluctuates rapidly, which can delay melatonin production and prevent sleep. Sometimes a show can be so engaging that we can't turn it off."

Energy drinks, coffee and soda may help a teen get a jump-start on the morning but may inhibit sleepiness at night. "These drinks should be avoided late in the day," she said.

"Most people are not getting as much sleep as they need. Sometimes my patients don't realize how sleepy they are. The bottom line I tell my patients – you must get adequate sleep, usually about nine hours, consistently. Developing a bedtime routine for about 10 to 15 minutes, done every night of the week, helps the brain and body unwind so you can fall asleep easily and wake up refreshed."



Sleep passes made by students from MICDS.

Recommended Hours of Sleep	
2-5 years	11-14 hours total daily (overnight + nap)
5-12 years	10 hours nightly
12-14 years	9 hours nightly
14-18 years	8 hours nightly