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THE OFFICIAL NEWSMAGAZINE OF THE AMERICAN ACADEMY OF PEDIATRICS

# AAP News

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*AAP News* 2014;35;1

DOI: 10.1542/aapnews.2014359-1a

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## Sounding alarm on need for later school start times

by **Kristy Kennedy** • Correspondent

When parents bring in their adolescent children to see developmental pediatrician Jeffrey K. Okamoto, M.D., FAAP, it's often because they have concerns about school performance.

One of Dr. Okamoto's first concerns is about sleep.

"We have families where five hours of sleep is typical. Some get less than that," said Dr. Okamoto, chair of the AAP Council on School Health Executive Committee. "Sleep is really underestimated as a major factor in how kids do both in academics and athletics. I'm not sure if parents understand how much it can affect their teens' performance."

Dr. Okamoto's patients are not unique. American children are chronically sleep deprived and pathologically sleepy, according to a revised AAP technical report, *Insufficient Sleep in Adolescents and Young Adults: An Update on Causes and Consequences* (*Pediatrics*. 2014;134:e921-e932). To optimize sleep in adolescents, a related policy statement, *School Start Times for Adolescents* (*Pediatrics*. 2014;134:642-649), recommends that schools set their start times no earlier than 8:30 a.m.

### Public health implications

"What we see is chronic sleep loss in adolescents that has taken on the aspects of a public health issue," said Judith A. Owens, M.D., M.P.H., FAAP, lead author of both statements. "We hope this policy statement galvanizes school districts into seriously thinking about changing their start times."

Getting enough sleep is a tough task for adolescents. Their body clocks change in puberty causing them to feel sleepy later, yet they still need between 8.5 and 9.5 hours a night. Add in environmental factors like homework, extracurricular activities, after-school jobs, early school commute and start times, and technology, and it is no surprise young people have health and quality-of-life issues, Dr. Owens said. Many sleep more on the weekends or use caffeine to stay awake, making their sleep habits worse.

"Sleep is way down on the priority list," she said. "These kids are operating under a constant state of jet lag."

Chronic sleep loss can cause issues such as depressed feelings, suicidal thoughts, risk-taking behavior, difficulty problem solving, poor judgment and lack of motivation.

"People who experience sleep loss tend to see less negative consequences of risk-taking behavior and overestimate rewards," Dr. Owens said. That has major implications for substance use, drunken driving, drowsy driving, violent behavior and sexual experimentation. "All those risky behaviors we know adolescents engage in anyway, the risk can be heightened with chronic sleep loss," she said.

Further, there can be health issues like increased risk for obesity, cardiovascular disease and metabolic dysfunction. Insufficient sleep also affects students' ability to perform well in school by making it difficult

to concentrate, pay attention, remember things and perform well in class.

"Kids are struggling," said Mary A. Carskadon, Ph.D., a contributing author to the statements and professor of psychiatry and human behavior at Brown University, and director of chronobiology and sleep research at Bradley Hospital in East Providence, R.I.

When addressing problems in adolescents' lives, health care providers, parents and school officials need to be asking about sleep, she said.

A National Sleep Foundation poll revealed most parents think their kids sleep enough, when 59% of middle school children and 87% of high school teens were not. The average high school student was getting seven hours a night. "A lot of times, it feels like the inkling is to move to another explanation that may involve prescribing medications for symptoms, but not addressing what may be at the root for some of these kids which is unhealthy sleep," Dr. Carskadon said.

### Benefits, challenges of changing start times

Changing school start times to no earlier than 8:30 a.m. would help, Dr. Owens said. Around puberty, adolescents can see a shift of up to two hours later in the time they go to bed and wake up. That shift is thought to be caused by two biological changes — the delayed timing of nocturnal melatonin production across adolescence that affects circadian rhythms, and changes in the homeostatic sleep drive, which make adolescents feel awake longer than younger children.

Most teens go to bed around 11 p.m., making an ideal wake time between 7:30 a.m. and 8:30 a.m., the AAP report found. Meanwhile, estimates show about 40% of U.S. schools start before 8 a.m., while about 15% start at 8:30 a.m. or later.

It's a simple solution with many complications. School schedules are rigid and determined by transportation costs, parent needs and all the work required to be done in a school day. Still, Dr. Carskadon said communities that have changed their school times have found benefits. For instance, Edina Public Schools in Minnesota reported fewer absences, more alert students, fewer discipline issues and happier families with later start times. Other studies show there are fewer teen car crashes. "There are real and tangible implications with these changes," Dr. Carskadon said.

### AAP recommendations

Specific guidance in the AAP statements include:

- Pediatricians should make sleep part of their well-child care visits with adolescents by educating parents and young people on how much sleep they need on a regular basis and that extra sleep on weekends and caffeine use are not substitutes for regular sufficient sleep. Parents should set bedtimes and enforce a "media curfew."
- Health care professionals are urged to create awareness at schools about the chronic sleep deprivation of America's youth caused by biological and environmental factors, including early school start and commute times. Provide scientific information and other support



about the benefits of later school start times to school officials and parent groups.

- Child and sleep health advocacy groups should create and disseminate educational materials explaining risks of chronic sleep loss in young people such as depressed mood, deficits in learning, attention and memory problems, poor impulse control, academic performance deficits, increased risk of car crashes, obesity, hypertension and long-term cardiovascular morbidity. Resources should suggest counter-measures like later school start times and emphasize how individual students can modify their sleep habits with support from their parents and community.

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*For resources, see <http://aapnews.aappublications.org/content/35/9/1.2.full>.*

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