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# ADOLESCENT SLEEP & SCHOOL START TIMES

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## THE VALUE OF SLEEP

- Sleep medicine is a relatively new field driven by advances in technology (e.g., EEG) in the 1980s.
- Previous belief was that the human brain “turned off” during sleep.
- New research shows that the brain is active during sleep and that adequate sleep is critical for physical and emotional health.
- While asleep our body conserves energy, restores body tissues, fights infection, and releases hormones that influence growth and cognitive functioning.
- Sleep deficits create negative side effects that include irritability, cognitive impairment, memory problems, impaired immune systems, increased reaction time, and increase major health risks.

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## WHAT WE KNOW ABOUT ADOLESCENT SLEEP

- Because of puberty, the growth spurt, and a critical period of brain development during adolescence, teens require more sleep than adults.
- Adolescents need 9 hours and 25 minutes of sleep per night for *optimal* functioning and 8 hours and 30 minutes of sleep per night for *healthy* functioning.
- On average, adolescents in the US sleep 6 hours and 45 minutes per week night.
- Adolescents attempt to make up their sleep debt on weekends and during the summer, but teens need adequate sleep **daily** for healthy functioning.

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## ADOLESCENT SLEEP AND THE DELAYED PHASE PREFERENCE

- Sleep patterns are established through our circadian rhythm, our internal sleep/wake cycle based on the earth’s rotation and exposure to light and dark.
- Teens’ circadian rhythm shifts about 2-3 hours later than that of children and adults. This is called the “delayed phase preference.”
- For adolescents, the sleep hormone, melatonin, rises in the blood later in the night and tapers off later in the morning leading to a pattern of falling asleep around midnight (12 AM) and rising around 9 AM.

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- This body of research has led to strong statements about the importance of re-evaluating school start times in the US.
- An August, 2015 report by the U.S. Center for Disease Control and Prevention stated that “Among possible public health interventions for increasing sufficient sleep among adolescents, delaying school start times has the potential for the greatest population impact.”
- The American Academy of Pediatrics suggests that “Middle and high schools should aim for a starting time of *no earlier* than 8:30 AM.” (*Pediatrics* article, 2014).
- Rigorous studies link early school start times to problematic sleep patterns and lower academic performance for teens.

## DOES DELAYING SCHOOL START TIME WORK?

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- School districts across the country have made the evidence-based decision to start middle and high schools later and this has allowed for longitudinal research on the effectiveness of this intervention.
- Across the US, results are very similar. Starting school later leads to better sleep, improved attendance and attention, increases in educational performance and standardized testing, less sleeping in class, and fewer disciplinary referrals.
- Later school start times has also been shown to decrease the number of traffic accidents, and reduce incidents of depression and anxiety in middle and high school students.
- Studies have found that people express similar concerns about moving start times later, but once the change is made, the overwhelming majority (>90%) preferred the later time just 1 year later.

## KEY RESOURCES

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- Web resource: [www.startschoollater.net](http://www.startschoollater.net)
- “Adolescent sleep needs and patterns: Research report and resource guide” (2000) by *The National Sleep Foundation*
- “Examining the Impact of Later High School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study” (Feb, 2014) by the Center for Applied Research and Educational Improvement, University of Minnesota
- “Impact of School Start Time on Student Learning” (Feb, 2013) by Hanover Research Group, Washington, DC
- “Policy Statement: School Start Times for Adolescents” (2014) by the Adolescent Sleep Working Group, Committee on Adolescence, and Council on School Health. Presented in the journal of *Pediatrics*
- “School start times for middle school and high school students – United States, 2011-12 school year” (2015) by *Centers for Disease Control and Prevention*