

## Sleep deprivation and teens: 'Walking zombies'

By Valerie Strauss

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By Vicki Abeles and Abigail Baird, Ph. D

This coming week most of us will lose an hour of sleep as we set our clocks ahead for Daylight Saving Time. But imagine if you lost an hour of sleep — or even more — every night of your life. That's what it's like for our nation's teens, who are facing an epidemic of sleep deprivation.

How bad is it? "Every single high school student I have ever measured in terms of their alertness is a walking zombie," says Cornell sleep expert James Maas. It's a description that will sound familiar to the parents of pretty much any teenager.

According to the National Sleep Foundation, American teenagers require about 9-1/4 hours of sleep a night, yet only 8 percent of them are getting it. A recent study published in the *Journal of Adolescent Health* found that as much as two-thirds of high school students get less than seven hours of sleep nightly.

If it was just a matter of early-morning fogginess this wouldn't be a big deal, but sleep deprivation in teens has been linked to lower levels of Human Growth Hormone, which is integral to a teenager's physical growth, brain development, and maturation of their immune system, as well as higher rates of anxiety disorders and depression. A 2010 study in the journal *Sleep* found that teenagers who go to bed after midnight are 24 percent more likely to suffer from depression and 20 percent more likely to consider harming themselves than those who go to bed before 10:00 p.m.

As parents we may applaud a high-schooler who has the dedication to stay up until 1:00 a.m. doing homework, but research shows that teens who don't get enough sleep perform less well during the school day. The student who revises her essay long into the night to get an A+ in English will grasp less of what's being taught the next day in Algebra.

In a study of fourth and sixth graders conducted by sleep researcher Dr. Avi Sadeh at Tel Aviv University, a mere one-hour nightly loss of sleep was "equivalent to the loss of two years of cognitive maturation and development." In other words, when deprived of just one hour of sleep each night, a sleep-deprived sixth-grader performed like a fourth grader. That's not progress.

Not only is too little sleep affecting teens, but so is their means of staying awake. Many rely on coffee, caffeinated soda, and energy drinks. Some take Adderall or amphetamines. In Massachusetts and New York they can now stay up with the help of a lipstick-sized canister of inhalable caffeine. *The Journal of Pediatrics* recently concluded that energy drinks are "never appropriate for children or adolescents," citing the harmful "neurologic and cardiovascular" impact of caffeine on teenagers.

So how can we help stop our kids from racing on empty and losing years of essential sleep? The first step is to realize how much we contribute to perpetuating a work ethic that celebrates pushing ourselves and our children to the limits. We need to treat sleep as essential to our teenagers' well-being and success by teaching them that sleep is as important as nutrition, exercise, studying, and free time. Over the past several years we've created national guidelines for eating and exercise, shouldn't we do the same for sleep?

We can also make changes in our schools, like advocating for later high school start times. An adolescent's brain works on a different circadian rhythm than that of adults — theirs thrives with later wake-up times. After the start time at a high school in Edina, Minnesota, was changed from 7:25 a.m. to 8:30 a.m., verbal SAT scores for the top 10 percent of students increased by several hundred points. The increase could not be attributed to any variable other than later start times.

Schools should also adopt block schedules and bring back study halls, both of which reduce the number of classes students must prepare for each day and give them more in-school time to complete academic assignments rather than requiring them to put in a grueling "second shift" after school.

So as Daylight Savings Time kicks in and we lose our annual hour of sleep, let's make a pledge to help our children get the sleep they need to be happy, healthy, and successful in school and in their lives.