

How permanent daylight saving time and later school starts could affect health

By Michael Nedelman, CNN

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(CNN) — About 70 countries around the world nudge their clocks back and forth each year -- but some people want to "spring forward" permanently, citing health and other benefits.

Some of those same people are also pushing for later school start times, but **experts argue the benefits for tired teenagers could be canceled out by permanent daylight saving time**, according to [correspondence](#) in the journal Current Biology. The authors argue that **California lawmakers pushing for both policies are "confused."**

The argument goes like this: **During daylight saving time, the clock moves an hour forward** -- so sunrise and sunset occur an hour later than before. This pushes the biological clock forward an hour, as well. **So, one might tend to go to bed later and have a harder time getting up in the morning**, according to the authors at the at the University of Surrey in the UK.

Other research, published online this month in the [Journal of Health Economics](#), looked at neighboring counties that just happen to be in different time zones. In those counties where the sun sets an hour later in the day, employed people tend go to bed later, too.

That extra hour of sunlight at the end of the day shortens how much they sleep, on average, by 19 minutes and "increases the likelihood of reporting insufficient sleep," the authors write. The authors also found the more sleep-deprived group to be in **worse health overall**, looking at factors such as **weight, diabetes and cardiovascular disease**.

Still, some have argued in favor of permanent daylight saving time. The debate can get heated, with Senator [Marco Rubio](#), President [Donald Trump](#) and a number of other elected officials arguing for it.

California State Assemblymember Kansen Chu -- who introduced a [bill](#) to put his state on permanent daylight saving time and has also voted in favor of later [school start times](#) -- told CNN in an emailed statement that he believes "they work well together."

"My main focus was to abolish the practice of switching the clock back and forth twice a year," Chu said.

"They were started as a way to conserve energy," he added, "but our lifestyle and energy consumption patterns have since changed."

He cited other likely benefits of permanent daylight saving time, such as reducing [traffic injuries](#) and potentially avoiding the health problems that peak around the shift in time, like [heart attacks](#).

And perhaps it could prevent some crime. According to a 2015 [paper](#), when our clocks spring forward, robberies fall -- an average of 7% over the course of a full day, and 27% during that last hour of the day -- which used to be dark.

"Some of us are early risers, others are not," Chu said. "We are all different, and time zones were decided by the government, not nature."

Get on your feet

On the other hand, delaying school start times is often presented as an effort to get kids to sleep more -- not less, as some argue would result from permanent daylight saving.

"Adolescents in particular are often sleep deprived and struggle to get up in the morning, which is why delays to school start times have been proposed," the authors of the Current Biology paper wrote.

Lawmakers in at least [14 states](#) have introduced bills that could regulate school start times, according to Start School Later, a nonprofit focused on increasing awareness about school hours and sleep.

US health officials [agree](#): "Schools start too early," says the US Centers for Disease Control and Prevention.

According to the CDC, teens who don't get at least eight to 10 hours of sleep do worse academically, are more often overweight and are more likely to have symptoms of depression. [Other research](#) has linked less sleep among adolescents to "unsafe behaviors" such as drunk driving, risky sexual activity, and the use of drugs and alcohol.

The American Academy of Pediatrics has recommended that middle and high schools begin no earlier than [8:30](#) in the morning.

Some [research](#) suggests that more evening daylight is linked to more physical activity among children, as well.

"One of the concerns I've heard about later school time is that it will be too dark when after-school sports and activities take place," Chu said. "With permanent DST, the sun will set later and it will be light out long enough to accommodate for later school time and after-school events."

But changing when the sun sets and school starts may not be the only ways to tackle teen fatigue. According to one [study](#) published in February, only 5% of teens follow recommendations for sleep, exercise and screen time.

"We see so many of our high school students spending over four, five, six hours per day on non-educational screen time," Dr. Cora Breuner, professor of adolescent medicine at Seattle Children's Hospital and chair of the Committee on Adolescence at the American Academy of Pediatrics, [previously told CNN](#).

Breuner explained that teens may lie awake long after they've powered off their devices, thinking about whatever conversation just took place or the homework that they didn't finish -- not to mention that the light from the screens has been shown to interfere with the secretion of melatonin, the hormone that tells the body it's nighttime.

"I always say in my clinic, everybody has to shut off their screen between 9 and 10," she said.

The rhythm is gonna get you

Without external cues like sunlight, humans tend to settle into a sleep cycle that is slightly longer than 24 hours: about [24.2 hours](#) on average.

This is less of a problem for the average Earthling than it is for astronauts, who whip around Earth so fast they see a sunrise every 90 minutes. "After a couple of weeks, you're going to be falling asleep several hours later than you did the first day," [Erin Flynn-Evans](#), director of NASA's Fatigue Countermeasures Laboratory, [previously explained to CNN](#).

Still, given how much time we spend indoors and keep the lights on, the sun may not be the only thing that regulates our sleep-wake cycles.

"Some individuals will be entrained to solar time, some will not, and many will be somewhere in the middle depending on their light exposure patterns," the University of Surrey authors wrote in the new paper.

CNN's Dr. Edith Bracho-Sanchez, Ashley Strickland and Michael Pearson contributed to this report.