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'Spring forward' to daylight saving time brings surge in fatal car crashes

Deadly accidents spike 6% in week after time change

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Source: University of Colorado at Boulder

Summary: A study of 732,000 accidents over two decades has found that the annual switch to daylight saving time is associated with a 6% increase in fatal car crashes that week.

FULL STORY

Fatal car accidents in the United States spike by 6% during the workweek following the "spring forward" to daylight saving time, resulting in about 28 additional deaths each year, according to new University of Colorado Boulder research.

The study, published January 30 in the journal *Current Biology*, also found that the farther west a person lives in his or her time zone, the higher their risk of a deadly crash that week.

"Our study provides additional, rigorous evidence that the switch to daylight saving time in spring leads to negative health and safety impacts," said senior author Celine Vetter, assistant professor of integrative physiology. "These effects on fatal traffic accidents are real, and these deaths can be prevented."

The findings come at a time when numerous states, including Oregon, Washington, California and Florida, are considering doing away with the switch entirely, and mounting research is showing spikes in heart attacks, strokes, workplace injuries and other problems in the days following the time change.

For the study -- the largest and most detailed to date to assess the relationship between the time change and fatal motor vehicle accidents -- the researchers analyzed 732,835 accidents recorded through the U.S. Fatality Analysis Reporting System from 1996 to 2017. They excluded Arizona and Indiana, where Daylight Savings Time was not consistently observed.

After controlling for factors like year, season and day of the week, they found a consistent rise in fatal accidents in the week following the spring time change. Notably, that spike moved in 2007, when the Energy Policy Act extended daylight saving time to begin on the second Sunday of March instead of the first Sunday in April.

"Prior to 2007, we saw the risk increase in April, and when daylight saving time moved to March, so did the risk increase," said Vetter. "That gave us even more confidence that the risk increase we observe is indeed attributable to the daylight saving time switch, and not something else."

With the arrival March 9 of daylight saving time, clocks shift forward by one hour, and many people will miss out on sleep and drive to work in darkness -- both factors that can contribute to crashes.

Those on the western edge of their time zone, in places like Amarillo, Texas, and St. George, Utah, already get less sleep on average than their counterparts in the east -- about 19 minutes less per day, research shows -- because the sun rises and sets later but they still have to be at work when everyone else does.

"They already tend to be more misaligned and sleep-deprived, and when you transition to daylight saving time it makes things worse," said first author Josef Fritz, a postdoctoral researcher in the Department of Integrative Physiology. In such western regions, the spike in fatal accidents was more than 8%, the study found.

The increase kicks in right away, on the Sunday when the clocks spring forward, and the bulk of the additional fatal accidents that week occur in the morning.

Changes in accident patterns also occur after the "fall back" time change, the study showed, with a decline in morning accidents and a spike in the evening, when darkness comes sooner.

Because they balance each other out, there is no overall change in accidents during the "fall back" week.

In all, over the course of the 22 years of data analyzed, about 627 people died in fatal car accidents associated with the spring shift to Daylight Savings Time, the study estimated.

Because the data only include the most severe of car accidents, the authors believe the results underestimate the true risk increase to drivers when time springs forward.

"Our results support the theory that abolishing time changes completely would improve public health," said Vetter. "But where do we head from here? Do we go to permanent standard time or permanent daylight saving time?"

Generally speaking, research has shown, it's better for sleep, the body clock, and overall health to have more morning light and less evening light, as is the case under standard time. Under permanent daylight saving time, mornings would stay dark later in winter all over the country, with the western parts of each time zone seeing the sun the latest, Vetter noted.

"As a circadian biologist, my clear preference is toward standard time."

Story Source:

Materials provided by **University of Colorado at Boulder**. Original written by Lisa Marshall. *Note: Content may be edited for style and length.*
