

## Permanent Standard Time: A Position Statement from the National Sleep Foundation

**Historical Context:** Daylight Saving time (DST) began during World War I when the United States decided to move forward an hour to save electricity in the evening. The current federal policy was enacted in 1966 as the Uniform Time Act.<sup>1</sup> Several changes occurred along the way (mostly changing the dates of starting and ceasing DST) and the current enactment was part of the Energy Policy Act of 2005.<sup>2</sup> While originally enacted to save energy by ensuring more daylight in the evening hours, some studies of DST have called into question the degree of energy savings. Still, other studies have shown negative effects on people's circadian rhythms and health because of time changes, potentially linked to a higher number of heart attacks, car crashes, and workplace injuries in the days after a time change.<sup>3</sup>

**Background:** The National Sleep Foundation's (NSF) mission is to improve the sleep health and well-being of the public through education and advocacy. The debate between transitioning from DST to Standard Time (ST) each year in the United States has been ongoing for decades. NSF has addressed the issue in the past by asserting the importance of maintaining a regular sleep schedule, and by providing recommendations and educational resources to mitigate the negative effects of the time transition. Recent research conducted by NSF suggests meaningful gaps between public attitudes and observed consequences of DST, as well as misalignment between public preferences and established scientific principles.

Circadian biologists support permanent ST, citing the importance of light in the morning.<sup>4,5</sup> The Society for Research and Biological Rhythms issued a statement asserting that ST is better synchronized with the biological clock and people will go to sleep earlier relative to their work and school times.<sup>6</sup> A recent JAMA Neurology paper reviewed evidence on how DST transitions affect processes that involve the brain, heart, sleep patterns, and genes that control the sleep-wake cycle.<sup>7</sup> The American Academy of Sleep Medicine recently published their position in support of ST, noting the shift to DST has been associated with increased cardiovascular morbidity, stroke, and hospital admissions.<sup>8</sup>

**Conclusion:** The human circadian system does not adjust to annual clock changes. Sleep becomes disrupted, less efficient, and shortened.<sup>9</sup> DST forces our biological clocks out of sync with the rising and setting of the sun (the sun clock). The link between our biological clock and the sun clock has been crucial to human health and well-being for millennia.<sup>10</sup>

As the global voice of sleep health, NSF always seeks better, more conclusive data. More than 60% of the world is on ST, indicating the international community understands the negative effects of DST on their health. Internationally, organizations such as the European Biological Rhythms Society and the Society for Research on Biological Rhythms advocate for the elimination of clock changes and adoption of permanent ST. Existing data support the elimination of seasonal time changes in favor of a fixed, year-round time.

**Position:** *It is the position of the National Sleep Foundation that seasonal time-changes are disruptive to sleep health and should be eliminated. Evidence supports permanent Standard Time because of its alignment with our circadian biology and relevance to sleep health and safety. NSF, therefore, advocates the adoption of permanent Standard Time as the appropriate option for public health.*

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<sup>1</sup> PUBLIC LAW 89-387-APR. 13, 1966

<sup>2</sup> H.R.6 - Energy Policy Act of 2005

<sup>3</sup> Gray TR, Jenkins JA. Congress and the political economy of daylight-saving time. Hoboken, NJ: Wiley; 2018

<sup>4</sup> Roenneberg T, Winnebeck EC, Klerman EB. Daylight saving time and artificial time zones- a battle between biological and social times. *Front Physiol.* 2019; 10:944.

<sup>5</sup> Duffy JF, Czeisler CA. Effect of light on human circadian physiology. *Sleep Med Clin.* 2009;4(2):165-177

<sup>6</sup> European Biological Rhythms Society; European Sleep Research Society; Society for Research on Biological Rhythms to the EU Commission on DST

<sup>7</sup> Malow BA, Veatch OJ, Bagai K. Are daylight saving time changes bad for the brain? *JAMA Neurol.* 2020.

<sup>8</sup> Rishi MA, Ahmed O, Barrantes Perez JH, et al. Daylight-saving time: an American Academy of Sleep Medicine position statement. *J Clin Sleep Med.* 2020;16(10):1781-1784.

<sup>9</sup> Watson, Nathaniel, Time to Show Leadership on the Daylight-Saving Time Debate, *J Clin Sleep Med.* 2019 Jun 15; 15(6): 815-817.

<sup>10</sup> Kantermann T, Juda M, Merrow M, Roenneberg T. The human circadian clock's seasonal adjustment is disrupted by daylight saving time. *Curr Biol.* 2007: 1996-2000.