

# Turning back the clock for daylight saving time can impact brain and body functions

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The end of daylight saving time is approaching, when millions turn back

their clock an hour. This change can have an impact on brain and body functions and people should make diet and exercise adjustments to counteract negative effects, according to Lina Begdache, associate professor of health and wellness studies at Binghamton University, State University of New York.

"Although a change in one hour does not seem to be extreme, it impacts the circadian rhythm, which is the internal clock that regulates the sleep-wake cycle. Research on [sleep quality](#) during the transition time describes potential metabolic disturbances and changes in mood."

"Sleep quality may be affected especially due to sudden misalignment between the circadian rhythm and the amount of daylight we are exposed to. The circadian rhythm is crucial in regulating several [brain](#) and body functions. Many genes, known as clock genes, are expressed based on the circadian rhythm. Therefore, disturbance in this cycle means disruption in many brain and body functions. Mood alterations can be a consequence of this disruption."

"Individuals with a predisposition to [mood disorders](#) and those with lighter sleep are affected. Interestingly, research has shown that women tend to have a shorter circadian rhythm of melatonin (the brain chemical that controls the sleep-wake cycle), which means that time transition may have a greater impact on their mood. This is something I found in my studies; women have a higher risk of mental health disorders in spring and fall."

"People need to pay closer attention to their sleep quality when transitioning, avoid stimulants such as caffeine, or exercise closer to bedtime. Avoid [blue light](#) or heavy meals at least 2-3 hours before bedtime. Although alcohol is a depressant, it shortens the [sleep-wake cycle](#), so it should be avoided."

"By making [positive changes](#) in nutrition and lifestyle practices, people can counteract the negative effects of the transition. Exercising during the day helps the brain produce more melatonin at night. A balanced diet of complex carbs and healthy proteins also supports more melatonin production. A word of caution, following a low-carb diet has a great impact on sleep quality. Individuals need to be conscious of how their diet is impacting their mood and sleep quality."

"Using a downtime regimen before bed helps to reduce stress, which also affects sleep quality. Maintaining a regular bed time is crucial for mood as these clock genes mentioned above are very sensitive to the change in wake-sleep cycles."

Provided by Binghamton University

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