WINTER IS COMING! DAYLIGHT SAVING TIME, FALL BACK!

CANADIAN SLEEP SOCIETY, CANADIAN SLEEP AND CIRCADIAN NETWORK, AND IMMERSCIENCE

Daylight Saving Time (DST), the name says it all. DST is done to save daylight by adjusting local clock time to match peak periods of activity, e.g. work, play and travel. In the fall, we all know how the days get gradually shorter in Canada, resulting in less light/daytime. That's why politicians invented a way for society to negotiate with Mother Nature and her seasons by adjusting the local time.

But why exactly do we change time?

At first, it was an economic decision since more daylight meant less use of coal and candles during working hours. After World War I, Canada and other countries decided to legislate nationwide Daylight Saving Time. The practice of making the best use of daylight hours by shifting the clock forward in the spring and back in the fall is a century-old Canadian tradition.

One hour more or less, the pros and cons of Daylight Saving Time

Researchers' interest in Daylight Saving Time increased as our understanding of the brain and sleep grew. Then several countries, including most of Europe and parts of Canada, called into question the pros and cons of the practice in our modern world. So we're at a point now where more studies are warranted to get a clearer picture of the impacts of Daylight Saving Time, particularly on traffic and health-related matters.







Here is a short list of the aspects that have been studied so far:



 Falling back an hour in the fall: May prevent, to some extent, car crashes and pedestrians getting hit when traffic occurs during daylight since drivers perform best in natural light.

- In the fall when clocks fall back: Modest decrease in cardiovascular incidents.
- May add 1 hour of sleep in the fall.

 May increase daylight exposure by prolonging the period of natural light during people's active time



- Springing forward an hour in the spring: Increases, to some extent, car crashes and pedestrians getting hit when traffic occurs mostly in darkness or because drivers' performance is affected by the DST-induced sleep disruption.
- In the spring when clocks spring forward: modest increase in cardiovascular incidents.
- In the spring, 1 hour of sleep is potentially lost and sleep may be fragmented the week or so after the time change.
- The indirect DST-induced lack of sleep may cause drowsiness, trouble concentrating, in turn affecting attention and performance at work or at school.









Daylight Saving Time and the brain or how being "in sync" matters

To understand how a simple shift of an hour can potentially throw us off balance, it is important to know how our brain regulates our behaviour and bodily functions by the minute.

Did you know that parts of our brain act as an internal biological clock? Internal clocks allow our brain to keep our body and behaviour synchronized, or in synch, with the day-night cycle so we can function well during the day and sleep well at night. This clock is able to understand the natural time prompts so well that it resets its time based on exposure to sunlight. This means that internal clocks are smart mechanisms that have their own pace but are also able to adjust to external stimuli such as natural light. All of this adds up to the actual time we can get to sleep! Another mechanism of the brain named the sleep drive also has strong impact on our behaviour, as it determines when we are sleepy or alert. This restorative drive balances sleep and wakefulness by signalling to our brain its need to go back to sleep, and the longer we stay awake, the stronger the signal.

Being in sync in terms of our body-time and day-night times is key to keeping us healthy and active. Being in sync means to follow the innate clock and sleep drive, and keep these mechanisms reliable by setting their time to be accurate and in synchronization with the natural changes in daylight using time cues from the natural world, mainly light and darkness.

Knowing all this, it becomes clearer how adjusting local clock time to shift the timeframe during which we are exposed to daylight may in turn put our brain out of sync. Time changes such as DST result in changes in light that may help our biological clock make changes as the season changes. DST's negative impacts observed so far are most likely explained by the disruptions of internal mechanisms, e.g. internal clocks and sleep drive.









Stay in sync - know who you are and act on it

You can prepare for the change in time and light to help your brain adapt to the time change. Without preparation, some of us may feel more fatigue, sadness or even a strong craving for carbs such as sugar for a week or two after the transition.

As a rule of thumb, all of us should keep in mind that our alertness and mood may be compromised during the change in local time. So we should all focus more while driving and at work to avoid mistakes. We can also be more patient with children, as they may be more tired than usual, and more moody or irritable as a result.

Here are two points to keep in mind to get prepared:

1. Who are you as a sleeper? Know your rhythm.

Good sleepers of any age, meaning individuals who enjoy regular and restorative sleep, won't notice much changes when local time is adjusted.

However, some of us are more sensitive than others to changes in sleep schedule and shifts in our internal clocks, and may need to prepare to avoid feeling off beat during the DST transition period.

Preparation is suggested when people:

* Have insomnia or other sleep disorders.



* Have mental health issues such as anxiety or depression, which are often interconnected with sleep and internal clock disruptions.

* Are early morning or late evening types. It's important to be aware of your natural preferred time of day. If you're an early bird or a night owl, you might be more sensitive to a one-hour time change.









2. A countdown to get prepared

To help your brain adapt, change its external cues to ease its clock reset gradually – you can use a countdown approach.



How to do it: A week or so before the local time change, bring your sleep schedule closer to the new time by adjusting it in 15-minute increments every two to three nights until you reach your desired adjusted time. By adjusting bedtimes and wake times incrementally, you will allow your internal clock to stay in sync with the external day and night clock by aligning them without too much affect on your sleep drive.

You can also adjust other external cues for sleep or wakefulness that are part of your sleep routine to ease the transition. Meal time can be adjusted to the new bedtime. By eating supper a bit earlier each day the week before DST, you're sending a signal to the brain that bedtime is approaching.

As the days get shorter, with or without local time change, it is important to expose yourself to natural daylight as much possible to have the health benefits and stay optimally in sync. To double the health benefits, you can exercise outside while the sun is out, for example find the time to take a walk at lunch or play outside with the kids before supper.



Have a bright Fall!







Société Canadienne du Sommeil



About Canadian Sleep Society

https://scs-css.ca/

The Canadian Sleep Society is a national organization committed to improving sleep for all Canadians through: support for research, promotion of high quality clinical care, education of professionals and the public, and advocacy for sleep and sleep disorders medicine Promoting Healthy sleep for healthy Canadians.

About Canadian Sleep and Circadian Network

https://www.cscnweb.ca/about-cscn

The Canadian Sleep and Circadian Network (CSCN) is national in scope and is committed to scientific excellence in the generation of new knowledge and its translation. We look to better understand sleep disruption and its impact so we can foster healthier sleep and healthier Canadia

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