

The rhythm of sleep

Our sleep is controlled by two processes:

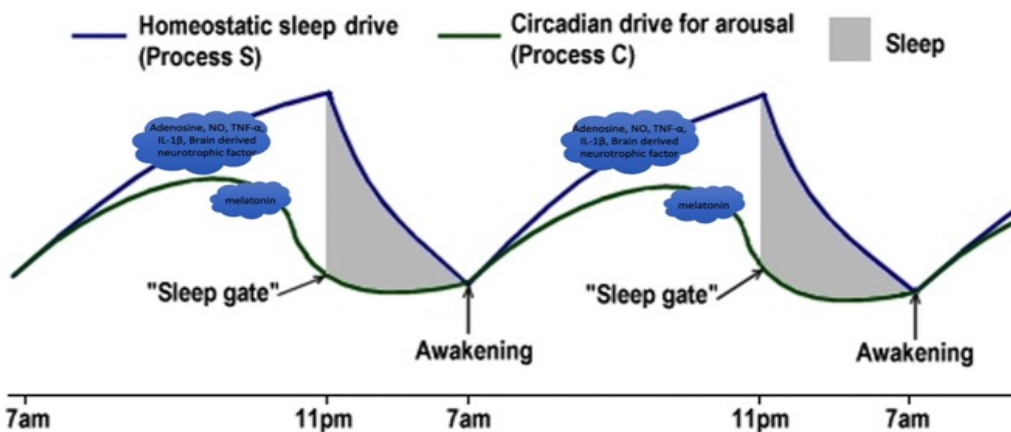
Circadian rhythm (Process C), also referred to as our “body clock”

Homeostatic sleep drive (Process S), which causes us to want to sleep

Have you ever heard the terms “**morning lark**” or “**night owl**”? It turns out our genes impact when we feel most alert. Thanks to Nobel Prize-winning research, we know that our circadian rhythm is “programmed” into every cell of our body.



Normal, healthy sleep-wake pattern in older adolescent or adult



Adapted from http://www.howisleepworks.com/how_twoprocess.html

Use your understanding of **Process C** and **Process S** to improve your sleep!

Circadian rhythm (Process C)

- Start your mornings off with bright light and a healthy breakfast to promote wakefulness.
- Include physical activity during the day and make time for lunch.
- Eat dinner at least a few hours before bedtime.
- Create a calming wind-down routine that involves dimming the lights and reducing screen time.

Homeostatic sleep drive (Process S)

- Avoid caffeine and other stimulants late in the day.
- Keep a regular sleep schedule, waking up and going to bed at roughly the same time every day. Sleeping in will reduce your opportunity to build up your homeostatic sleep drive, making it harder to fall asleep.



Scan the QR code to learn more.

Process S and **Process C** balance each other out early in the day, allowing us to stay awake. As it begins to get darker, melatonin production is triggered, which creates a gap between the two processes. This “sleep gate” allows us to go to sleep. While you’re sleeping, melatonin helps keep you asleep until morning. Then melatonin production is reduced and your “body clock” signals that it’s time to wake up.

Check out geisinger.org/stbw for resources to help you create a healthy bedtime routine and track your sleep.