

Nature resets body's clock

By Meghan Rosen / August 6, 2013

A short camping trip could help people rise and shine, researchers report. After a week living in tents in Colorado's Rockies, campers' internal clocks shifted about two hours earlier. It transformed even night owls into early birds.

"It's a clever study, and it makes a dramatic point," says Katherine Sharkey. A sleep researcher and physician at Brown University in Providence, R.I., she did not work on the new study. People get much more light outside than they do indoors, she notes. And that can reset their [internal body clocks](#).



Explainer

[What is jet lag?](#)

A master clock in the brain controls the release of melatonin. This hormone prepares the body for sleep. Melatonin levels rise in the early evening and then taper off in the morning before a person wakes up.



After a week spent in the Colorado woods, campers fell asleep earlier and woke up earlier. Their internal clocks shifted, syncing up with sun. Credit: Courtesy of K. Wright Jr.

But many people today spend their days indoors and their nights bathed in the glow of electric lights (including the light emitted by TVs and computers). Too little early morning light and too much evening lighting can throw the body's clock out of sync. This unnatural lighting can trigger the body to ramp up melatonin levels later at night. It can also lead the hormone levels to fall later than normal in the morning — often after a person has woken up. Lingering levels of this sleep hormone can make people groggy.

Kenneth Wright Jr., a sleep researcher at the University of Colorado, Boulder, and colleagues whisked eight volunteers away for a summer camping trip. After nightfall, the campers used only campfires for lighting. No flashlights (or cellphones) allowed.

Each day, the campers soaked up four times as much light as they got indoors. They also went to sleep and naturally woke up more than an hour earlier than they had before the trip.

Tests done after the volunteers got home again showed that their melatonin levels now climbed around sunset. They also petered out at sunrise — two hours earlier than before they had gone camping. Wright's team published its findings August 1 in *Current Biology*.

Explainer

[The teenage body clock](#)

People might not even need to rough it to nudge their internal clocks back. Typical office and school lighting is less than one percent as bright as a midsummer day. So even brief stints outside might help. This would be especially true if people encountered outdoor light early in the morning. That's when the body's clock is most susceptible to resetting.

"Start your day off with a morning walk, and open the [window] shades to expose yourself to sunlight," Wright advises.

Power Words

body clock (also known as biological clock) A mechanism present in all life forms that controls when various functions such as metabolic signals, sleep cycles or photosynthesis should occur.

circadian rhythm Biological functions such as body temperature and sleeping/waking times that operate on a roughly 24-hour cycle.

hormone A chemical produced in a gland and then carried in the bloodstream to another part of the body. Hormones control many important body activities, such as growth. Hormones act by triggering or regulating chemical reactions in the body.

melatonin A hormone secreted in the evening by a structure in the brain. Melatonin tells the body that it is nearing time to sleep. It plays a key role in regulating circadian rhythms.

sync (short for synchrony) Work together in harmony at the same time or rate, like in a marching band.