

# How to reset your body clock, and get better sleep, with hiking boots and a tent

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Are you sick of going to bed late and waking up tired? Then grab your hiking boots and a tent. A new study suggests that a couple days of camping in the great outdoors can reset your circadian clock and help

you get more sleep.

The circadian clock is an internal clock that tells your body when it's time to go to sleep and when it's time to wake up. Scientists track this clock by measuring the amount of melatonin circulating in a person's blood at any given time.

In a healthy sleeper, melatonin levels rise a few hours before bedtime, stay high through the night, and then settle back down to daytime levels when it's time to wake up. The span of time when melatonin levels are elevated is known as biological night.

In our modern society biological night does not usually coincide with night in the natural world. Most of us stay up many hours past sunset and would probably sleep in many hours after sunrise if we could.

The trouble is, if your biological night begins at midnight or later, your melatonin levels may still be high when your alarm clock goes off in the morning. This leads to grogginess, but it may have other health consequences as well, researchers say. Diabetes, obesity and heart disease have all been associated with people not getting enough sleep.

Previous research by integrative physiology professor Kenneth Wright of the University of Colorado at Boulder found that people can reset their circadian clocks by taking a six-day summer camping trip in the Rocky Mountains.

That study, published in 2013, showed that by the end of the trip, the camper's bodies started to release melatonin around sunset, and stopped releasing it around sunrise - an average of two hours earlier than when they were tested at home.

Additionally, during the camping trip, the study participants didn't get up

for an entire hour after their bodies stopped releasing melatonin, making it easier for them to wake up in the morning.

"That original study answered a lot of questions, but it raised more questions," Wright said.

In the new work, published Thursday in *Current Biology*, Wright's team set out to determine if our circadian clocks can be reset by a shorter jaunt in nature, and if these biological clocks respond to seasonal influences.

To answer the first question, the researchers recruited 14 physically active volunteers in their 20s and 30s. Nine went on a weekend camping trip, while the other five stayed home. At the end of the weekend, the authors monitored the volunteers' melatonin levels to see if there had been any shift in the timing of their biological night.

The researchers report that in just two days, the campers' circadian clocks shifted so that their melatonin levels began to rise more than an hour earlier than they did in the days before they left on the trip. Overall, the difference was equivalent to 69 percent of the effect that the researchers observed when campers went on a six-day trip in 2013.

"This tells us we can reset our clocks fast," Wright said.

The authors also found that the circadian clocks of the group that stayed home shifted even later over the course of the weekend.

"Those people stayed up later and slept in more, like lots of us do on the weekend and that pushed their clocks later too," he said.

In another experiment, the authors sent five brave volunteers on a six-day winter camping trip to determine whether the human circadian clock

is affected by seasonal changes in day length. When the campers returned home, the authors found that the winter camping group's biological night was longer than that of the group that went camping for a week in the summer back in 2013.

"That finding shows we are similar to other animals," Wright said.

Indeed, many animals adjust their circadian clocks in the winter so they can spend more time sleeping as the nights grow longer. Wright explains that changes in the [circadian clock](#) trigger other changes as well - for example, causing some mammals to put on weight or change the color of their fur.

Wright said the new work suggests we may be more susceptible to changes in the seasons than most of us realize.

"I'd love to see someone do an experiment where they take people who have winter depression and have them increase their time outdoors for a weekend," he said.

Wright thinks there are two reasons a sojourn in nature can reset our biological clocks, and both have to do with light.

His group found that on the winter camping trip participants were exposed to 13 times more light than they usually are when they go about their normal lives.

In addition, the winter campers were not allowed to use flashlights or electronic devices during the weeklong camping trip. That meant that when darkness fell, the only light they saw was from their campfires.

He said that both the increased light during the day and lack of light during the night played a role in realigning the circadian clocks.

"A lot of people think about light at night and recognize it is not the best thing, but our research has shown that the reduction in light we get during the day is equally important," he said.

Therefore, if you want to change your sleep patterns, but sleeping in tents is not your thing, you might start by trying to increase your exposure to natural light during the day and decrease the amount of electric light you see at night.

And if that doesn't work, there's always camping.

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