

Trouble waking up? Camping could set your clock straight

EurekaAlert!

If you have trouble going to sleep at night and waking up for work or school in the morning, a week of camping in the great outdoors might be just what you need. That's according to evidence reported on August 1 in *Current Biology*, a Cell Press publication, showing that humans' internal biological clocks will tightly synchronize to a natural, midsummer light-dark cycle, if only they are given the chance.

A week of exposure to true dawn and dusk with nights lit only by a campfire's glow had the biggest effect on people who might otherwise describe themselves as night owls. Under those conditions, they quickly reverted to a schedule much more like an early bird's.

"By increasing our exposure to sunlight and reducing our exposure to electrical lighting at night, we can turn our internal clock and sleep times back and likely make it easier to awaken and be alert in the morning," says Kenneth Wright of the University of Colorado Boulder.

Wright and his colleagues first studied the internal circadian timing of eight adults after one week of routine work, school, social activities, and self-selected sleeping schedules with the normal exposure to electrical lighting. They then took those same people out camping in Colorado, with sunlight and campfires only—no flashlights or even smart phones allowed—but they could sleep according to any schedule they chose.

Their studies showed that a typical, modern environment causes about a two-hour delay in the circadian clock as indicated by fluctuations in the hormone melatonin. People tended to stay up until after midnight and to wake up around 8:00 in the morning. After a week of natural lighting, all measures of circadian timing shifted two hours back, and sleep schedules followed, even as the total time spent sleeping stayed about the same.

The findings may explain an observed paradox in brain arousal, the researchers say. In our modern world, melatonin levels tend to decrease to daytime levels about two hours after we wake up. In other words, our biological night extends past our wake time and contributes to why many of us are at our sleepest soon after we wake up in the morning. With exposure to natural light, that decrease in melatonin shifts to the last hour of sleep time, then brain arousal rises earlier, likely helping people feel more alert in the morning.

Of course, we can't all go camping all the time. But the researchers say some other strategies could help. "Our findings suggest that people can have earlier bed and wake times, more conducive to their school and work schedules, if they were to

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increase their exposure to sunlight during the day and decrease their exposure to electrical lighting at night," Wright says.

So, go for a morning walk, keep your shades open at work, and step outside for lunch. In the evening, keep the lights down low and turn the computers and TVs off. You'll thank yourself in the morning.

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