Need a nap? Find yourself a hammock

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For grownups, drifting off for an afternoon snooze is often easier said than done. But many of us have probably experienced just how simple it can be to catch those zzz's in a gently rocking hammock. By examining brain waves in sleeping adults, researchers reporting in the June 21 issue of *Current Biology,* a Cell Press publication, now have evidence to explain why that is.

The study finds that napping on a slowly swinging bed really does get us to sleep faster. To the researchers' surprise, rocking also changes the nature of our sleep, encouraging deeper sleep.

"It is a common belief that rocking induces sleep: we irresistibly fall asleep in a rocking chair and, since immemorial times, we cradle our babies to sleep," said Sophie Schwartz of the University of Geneva. "Yet, how this works had remained a mystery. The goal of our study was twofold: to test whether rocking does indeed soothe sleep, and to understand how this might work at the brain level."

Schwartz, Michel Mühlethaler, and their colleagues Laurence Bayer and Irina Constantinescu asked twelve adult volunteers to nap on a custom-made bed or "experimental hammock" that could either remain stationary or rock gently. All participants were good sleepers who didn't typically nap and did not suffer from excessive sleepiness during the day. Each participant took two 45-minute afternoon naps, one with the bed stationary and one with the bed in motion, while their brain activity was monitored by electroencephalogram (EEG).

"We observed a faster transition to sleep in each and every subject in the swinging condition, a result that supports the intuitive notion of facilitation of sleep associated with this procedure," Mühlethaler said. "Surprisingly, we also observed a dramatic boosting of certain types of sleep-related [brain wave] oscillations."

More specifically, rocking increased the duration of stage N2 sleep, a form of non-rapid eye movement sleep that normally occupies about half of a good night's sleep. The rocking bed also had a lasting effect on brain activity, increasing slow oscillations and bursts of activity known as sleep spindles. Those effects are consistent with a more synchronized neural activity characteristic of deeper sleep.

Schwartz and Mühlethaler say the next step is to find out whether rocking can improve longer periods of sleep and to find out whether it may be useful for the treatment of sleep disorders, such as insomnia. Also, they added, because sleep spindles have been associated with brain plasticity mechanisms, enhancing spindle activity with rocking may be good for memory consolidation and may have the potential to improve brain repair mechanisms after brain damage.

More information: Rocking synchronizes brain waves during a short nap, by Laurence Bayer et al. *Current Biology.*

Provided by Cell Press