

# Caffeine has little to no benefit after three nights of sleep restriction

13 June 2016



Credit: George Hodan/public domain

A new study found that after restricting sleep to 5 hours per night, caffeine use no longer improved alertness or performance after three nights.

Results show that relative to placebo, [caffeine](#) significantly improved Psychomotor Vigilance Task (PVT) [performance](#) during the first 2 days, but not the last 3 days of sleep restriction.

"We were particularly surprised that the performance advantage conferred by two daily 200 mg doses of caffeine was lost after three nights of [sleep restriction](#)," said lead author Tracy Jill Doty, PhD, research scientist at Walter Reed Army Institute of Research. "These results are important, because caffeine is a stimulant widely used to counteract performance decline following periods of restricted sleep. The data from this study suggests that the same effective daily dose of caffeine is not sufficient to prevent performance decline over multiple days of restricted [sleep](#)."

The research abstract was published recently in an online supplement of the journal *Sleep* and will be presented Monday, June 13 and Tuesday, June

14, in Denver at SLEEP 2016, the 30th Anniversary Meeting of the Associated Professional Sleep Societies LLC (APSS).

The study group consisted of 48 healthy individuals who participated in a double blind, placebo-controlled study. Sleep was restricted to five hours of time in bed for a total of five days. Participants were administered either 200 mg of caffeine or a placebo twice daily. A cognitive task battery was administered hourly during the wake periods and included a 10-minute PVT, Profile of Mood States (POMS), and the Stanford Sleepiness Scale (SSS). A modified Maintenance of Wakefulness Test (mMWT) was administered six times per day.

**More information:** Abstract Title: Caffeine Efficacy Across a Simulated 5-day Work Week with Sleep Restriction, Abstract ID: 0254

Provided by American Academy of Sleep Medicine

APA citation: Caffeine has little to no benefit after three nights of sleep restriction (2016, June 13) retrieved 16 November 2022 from <https://medicalxpress.com/news/2016-06-caffeine-benefit-nights-restriction.html>

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