

Add sleep woes to long-term effects of concussions

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Concussions can increase the long-term risk of a wide range of sleep disorders, a new study indicates.

Researchers looked at more than 98,700 U.S. veterans diagnosed with a [traumatic brain injury](#) (TBI) and the same number of veterans with no history of TBI. The brain injuries ranged from mild TBI (concussion) to severe.

None of the participants had sleep disorders at the start of the study, but over 14 years of follow-up, 23% of those with TBI developed sleep disorders, compared with 16% of those without a history of brain [injury](#).

"We found that people with TBI had an increased risk of insomnia, [sleep apnea](#), sleep-related movement disorders and [excessive daytime sleepiness](#)—every sleep disorder we looked at," said study author Dr. Yue Leng, an epidemiologist and sleep researcher at the University of California, San Francisco.

After adjusting for other sleep-disorder risk factors such as diabetes, tobacco use or [substance use disorder](#), the researchers concluded that people with TBI were 40% more likely to develop a sleep disorder than those without one.

The association was stronger for veterans who had concussions than for those who had moderate or severe TBIs.

The study found that 11% of the veterans with TBI developed sleep apnea and 12% developed insomnia, compared to 8% and 7%, respectively, of those without TBI. In sleep apnea, breathing repeatedly stops and starts during the night, while people with insomnia have trouble falling asleep or staying asleep.

Having post-[traumatic stress disorder](#) did not increase or decrease the risk of sleep disorders, according to the study. The findings were published online March 3 in the journal *Neurology*.

"Since sleep disorders affect people's quality of life and their rehabilitation process, it will be important to develop strategies to identify these [disorders](#) early as well as prevent them from occurring after traumatic brain injuries to improve people's overall health and quality of life," Leng said in a journal news release.

More work is needed to understand the link between different severity of TBI and development of [sleep disorders](#), she noted.

"The stronger association for people with mild TBI could be due to the different brain injury mechanism for those injuries," Leng said.

For instance, mild TBI often involves repetitive concussive injuries or acceleration or deceleration injuries causing more diffuse injury and inflammation, she explained. On the other hand, moderate or severe TBIs are often due to a direct

blow to the head with more focused but severe damage

More information: The American Academy of Family Physicians has more on [concussion](#).

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