

Sleep duration associated with higher colorectal cancer risk

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A new study is the first to report a significant positive association between long sleep duration and the development of colorectal cancer, especially among individuals who are overweight or snore regularly. The results raise the possibility that obstructive sleep apnea may contribute to cancer risk.

"Our current study adds to the very limited literature regarding the relationship between [sleep](#) duration and/or sleep quality and colorectal [cancer risk](#)," said lead author Xuehong Zhang, MD, ScD, instructor in the Department of Medicine at Harvard Medical School and associate [epidemiologist](#) at Brigham and Women's Hospital in Boston. "The novel observation of increased risk among regular snorers who sleep long raises the possibility that sleep apnea and its attendant intermittent hypoxemia may contribute to cancer risk."

The study, which appears in the May issue of the journal *Sleep*, utilized data from two prospective cohort studies, the Health Professionals Follow-up Study (HPFS) and the Nurses' Health Study (NHS). A biennial questionnaire is sent to participants in each cohort to collect information on demographics, [lifestyle factors](#) and disease endpoints. Participants estimated their total hours of sleep in a 24-hour period and were asked if they snore.

A total of 76,368 women and 30,121 men formed the baseline population for this analysis. At baseline the [median age](#) was 53 years for women and 56 years for men. The researchers documented a total of

1,973 incident colorectal cancer cases: 1,264 cases in NHS (1986-2008) and 709 cases in HPFS (1988-2008). In subgroup analyses, men or women who were overweight or who were regular snorers and who reported sleeping 9 hours or more per day had approximately a 1.4 to 2-fold increased risk of developing colorectal cancer compared to overweight or regular snorers with 7 hours of sleep per day.

The American Academy of Sleep Medicine reports that individual sleep needs vary. However, the general recommendation is that most adults should get about seven to eight hours of nightly sleep.

The authors suggest that the association between the self-reported [long sleep](#) duration and incident colorectal cancer may be explained by obstructive sleep apnea, which involves repetitive episodes of complete or partial upper airway obstruction occurring during sleep despite an ongoing effort to breathe. The major predisposing factor for obstructive sleep apnea (OSA) is excess body weight, and loud snoring is a common symptom of [sleep apnea](#).

According to the authors, sleep disruption caused by OSA may reduce sleep quality and increase sleepiness, resulting in longer reported sleep durations. Furthermore, intermittent [hypoxemia](#) similar to that which occurs in OSA has been shown in animal models to promote tumor growth.

"Future studies should focus on different populations and evaluate to see whether [sleep duration](#) and sleep quality is a novel risk factor for colorectal cancer and to understand the mechanisms behind this association," said Zhang.

According to the Centers for Disease Control and Prevention (CDC), colorectal cancer is the third most commonly diagnosed cancer and the second leading cause of cancer deaths in men and women combined in

the U.S.

Provided by American Academy of Sleep Medicine

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