

Lack of sleep found to be a new risk factor for colon cancer

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An inadequate amount of sleep has been associated with higher risks of obesity, heart disease, diabetes, and death. Now colon cancer can be added to the list.

In a ground-breaking new study published in the Feb. 15, 2011 issue of the journal *Cancer*, researchers from University Hospitals (UH) Case Medical Center and Case Western Reserve University School of Medicine, found that individuals who averaged less than six hours of [sleep](#) at night had an almost 50 percent increase in the risk of colorectal adenomas compared with individuals sleeping at least seven hours per night. Adenomas are a precursor to cancer tumors, and left untreated, they can turn malignant.

"To our knowledge, this is the first study to report a significant association of sleep duration and colorectal adenomas," said Li Li, MD, PhD, the study's principal investigator, family medicine physician in the Department of Family Medicine at UH Case Medical Center and Associate Professor of Family Medicine, Epidemiology and Biostatistics at Case Western Reserve University School of Medicine. "A short amount of sleep can now be viewed as a new risk factor for the development of the development of [colon cancer](#)."

In the study, patients were surveyed by phone prior to coming into the hospital for scheduled colonoscopies at UH Case Medical Center. They were asked demographic information as well as questions from the Pittsburgh Sleep Quality Index (PSQI), which obtains information about

the patient's overall sleep quality during the past month. The PSQI asks for such information as how frequently one has trouble sleeping and how much sleep one has had per night. The study was funded by the National Cancer Institute through Case Western Reserve University School of Medicine.

Of the 1,240 patients, 338 were diagnosed with colorectal adenomas at their [colonoscopy](#). The patients with adenomas were found in general to have reported sleeping less than six hours compared to compared to those patients without adenomas (control) patients, and the association between amount of sleep and adenomas remained even when adjusted for family history, smoking, and waist-to-hip ratio (a measurement of obesity).

The researchers also found a slightly stronger association of sleep duration with adenomas with women compared to men, but the difference was not statistically significant.

Dr Li said the magnitude of the increase in risk due to less hours of sleep is comparable to the risk associated with having a first-degree relative (parent or sibling) with colon cancer, as well as with high, red meat intake. "Short [sleep duration](#) is a public health hazard leading not only to obesity, diabetes and coronary heart disease, but also, as we now have shown in this study, colon adenomas," he said. "Effective intervention to increase duration of sleep and improve quality of sleep could be an under-appreciated avenue for prevention of colorectal cancer."

Although why fewer hours of sleep may lead to colon cancer is unknown, Dr. Li said some of theories include that less sleep may mean less production of melatonin, a natural hormone that in animals has been linked to DNA repair, or that insulin resistance may underlie the link between sleep disturbance and cancer development.

Provided by University Hospitals Case Medical Center

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