

# Fingerprint of sleep habits as warning sign for heart disease

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Chronic short sleep is associated with increased risk of clogged arteries, heart disease, and thus increased morbidity and mortality. New research in *Experimental Physiology* may have figured out why lack of sleep

increases susceptibility to heart disease, and allowing doctors to identify the patients who might need to change their habits before they develop disease.

In adults who regularly slept fewer than 7 hours per night, the levels of certain microRNAs, (molecules that influence whether or not a gene is expressed) were lower. These molecules play a key role in regulating vascular health and thus levels are now recognized to be sensitive and specific biomarkers of cardiovascular health, inflammation and disease. In other words, a lowered level of these [molecules](#) is associated with heart disease, so they could be used as a biomarker to determine who is more susceptible to disease.

Researchers tested sedentary, middle-aged adults without [heart disease](#) from the local major metropolitan surrounding Denver and Boulder, Colorado. Subjects were asked to complete a questionnaire designed to accurately estimate average nightly sleep and a small amount of blood was taken from each subject after an overnight fast. MicroRNAs 125a, 126 and 146a were extracted from the blood and measured.

Jamie Hijmans, an author on the study said: "The link between insufficient sleep and [cardiovascular disease](#) may be due, in part, to changes in microRNAs. These findings suggest there may be a "fingerprint" associated with a person's sleep habits, and that fluctuations in miRNA levels may serve as a warning or guide to disease stage and progression."

**More information:** Jamie G. Hijmans et al, Insufficient sleep is associated with a pro-atherogenic circulating microRNA signature, *Experimental Physiology* (2019). [DOI: 10.1113/EP087469](https://doi.org/10.1113/EP087469)

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