

# Whistle... and walk... while you work

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(HealthDay)—If you have to sit almost all day while you work, take a short walk whenever you can.

Why? Researchers report that even a 10-minute stroll can restore blood flow to legs affected by prolonged [sitting](#).

"Although the size of our sample was small, the effects and results we found were still profound," said study first author Robert Restaino, a doctoral student at the University of Missouri, in Columbia, Mo.

The findings were published recently in the journal *Experimental Physiology*.

"The obvious take-home is that uninterrupted sitting and inactivity leads to microvascular dysfunction, and therefore is unhealthy," said Dr.

William Gray, director of endovascular services at New York-Presbyterian Hospital-Columbia University Medical Center, in New York City. Gray noted that sitting for a long time has previously been linked to heart disease.

Restaino said the goal of his study was to "tease apart the impairments elicited by prolonged sitting."

To isolate the effects of lengthy stretches of sitting, Restaino and his colleagues had 11 young men engage in some "acute sitting" for six hours. The researchers measured the men's blood flow and a couple of other heart factors both before the sitting session and afterward.

To keep food from affecting the results, all of the men ate the same breakfast—a quesadilla with pineapple juice—two hours before their sitting episode. They had another meal four hours into the sitting.

The study participants were not supposed to move their legs while they sat, and they were seated so their legs hung above the floor. They were allowed to read or use a computer.

Once their six-hour sitting ended and blood flow and other measurements were completed, the men each took a 10-minute walk. Then, the investigators again performed all of the same measurements.

The researchers found that sitting was bad. It reduced blood flow in two major leg arteries and the men's calves swelled by almost an inch, on average.

After the stroll—which, based on step counters, was about 1,100 steps in 10 minutes—blood flow and other measures returned to pre-sitting levels, the findings showed.

Noting that this group of 11 men represented "healthy individuals," Restaino said that in other groups of people, such as the elderly or those with previous heart problems, "I would imagine the impairments would be more exaggerated."

For people who are less healthy, he added, the ability of blood flow and other measures to rebound to normal might require longer, more intense exercise. But "this is purely speculative" for now, Restaino said.

Gray said: "We know that [[blood flow](#)] dysfunction is associated with worse cardiovascular [heart] outcomes in the elderly. But we don't know if age or duration of the activity required would affect the magnitude of the effects seen here."

Gray said the small size of the study was "OK" because the authors measured objective endpoints and found big differences with walking.

How long the effects of a short walk will last is unclear.

The direct effect of exercise, according to Gray, appears to be increased levels of nitric oxide, a molecule that triggers blood vessels to open up. That reduces friction on the blood and allows it to flow more easily.

Restaino said another factor is likely the contraction of the muscles that happens while walking, which helps boost circulation.

The bottom line, said Restaino, is that "cumulatively, these effects of a short walk are all playing important roles in improving impairments seen during a prolonged bout of sitting."

**More information:** Visit the [American Heart Association](#) for more on wellness in the workplace.

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