

Long periods of sedentary behavior may increase cardiovascular risk in older women

February 19 2019



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A new study has found that the longer older women sit or lay down during the course of a day—and the longer the individual periods of uninterrupted sitting—the greater their risk of cardiovascular diseases such as heart disease and stroke. But reducing their sedentary time by just an hour a day appears to lower the risk of cardiovascular diseases by

12 percent—and for heart disease alone, by a dramatic 26 percent, the research found. The study was funded by the National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health.

"This study provides further strong evidence of a link between [sedentary behavior](#), like sitting and laying down, which uses very little energy, and cardiovascular [disease](#)," said David Goff, M.D., Ph.D., director of the Division of Cardiovascular Sciences, NHLBI. "Sedentary behaviors and inactivity are major risk factors for heart disease, and this research also shows that it is never too late, or too early, to move more and improve your heart health."

In this five-year prospective study, researchers looked at more than 5,000 women ages 63 to 97 and measured both the total time they sat or laid down each day and the duration of discrete sedentary periods. The results, published today in the journal *Circulation*, are significant.

"Higher amounts of [sedentary time](#) and longer sedentary bouts were directly associated with cardiovascular disease," said John Bellettiere, Ph.D., research fellow of cardiovascular disease epidemiology at the University of California, San Diego, and lead author of the study.

"Importantly, the association showed up regardless of a woman's overall health, physical function, and other cardiovascular risk factors, including whether they also were engaging in moderate to vigorous physical activity."

Of the estimated 85.6 million American adults having at least one type of cardiovascular disease, which includes heart disease and stroke, 43.7 million of them are 60 or older. In fact, 67.9 percent of women between 60 and 79 years old, have cardiovascular disease; and heart disease is the leading cause of death among women 65 and older.

The findings, Bellettiere said, could have implications for what health

officials communicate to older women about staying heart healthy. Getting up and moving, even if for just a few minutes more throughout the day, he noted, might help reduce their already-high rates of heart disease.

"Encouraging less sedentary time and shorter sedentary bouts in [older women](#) could have large public health benefits," Bellettiere said.

The research involved an ethnically diverse group of 5,638 women, nearly half of whom were over age 80, enrolled between 2012 and 2014. None had a history of myocardial infarction or stroke. The women were part of the NHLBI-funded Objective Physical Activity and Cardiovascular Health (OPACH)—a sub cohort of the Women's Health Initiative.

At the start of the study, participants wore hip-mounted accelerometers that measured their movement 24 hours a day for seven consecutive days. Previous studies have largely relied on self-reporting questionnaires; the accelerometers, however, provided researchers more accurate measures of sedentary time overall, as well as the duration of individual bouts of sedentary time. The latter was important because it allowed, for the first time, the study of whether sitting for long uninterrupted periods throughout the day was contributing to higher risk of cardiovascular disease.

The researchers then followed the participants for almost five years, tracking [cardiovascular disease](#) events such as heart attacks and strokes. They found that on average, an additional hour of total sedentary time was associated with a 12 percent higher risk for cardiovascular diseases, and when that sitting time was made up of long uninterrupted sedentary sessions, the risk was 52 percent higher than when it was accumulated in short, regularly interrupted bouts of sedentary time.

Yet, just as the risk for [heart disease](#) can increase with more sitting and longer sedentary bouts, it can be reduced by getting up and moving, even if only a little, and by doing it often throughout the day, the researchers found.

"Reductions of sedentary time do not need to happen all at once," said Andrea LaCroix, Ph.D., Chair of the Division of Epidemiology and Director of the Women's Health Center of Excellence at the University of California, San Diego, who led the OPACH study. "I recommend to all women who, like me, are over 60, to make a conscious effort to interrupt our sitting by getting up and moving around as often as we can."

More information: John Bellettiere et al, Sedentary Behavior and Cardiovascular Disease in Older Women, *Circulation* (2019). [DOI: 10.1161/CIRCULATIONAHA.118.035312](#)

Provided by NIH/National Heart, Lung and Blood Institute

Citation: Long periods of sedentary behavior may increase cardiovascular risk in older women (2019, February 19) retrieved 9 April 2024 from <https://medicalxpress.com/news/2019-02-periods-sedentary-behavior-cardiovascular-older.html>

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