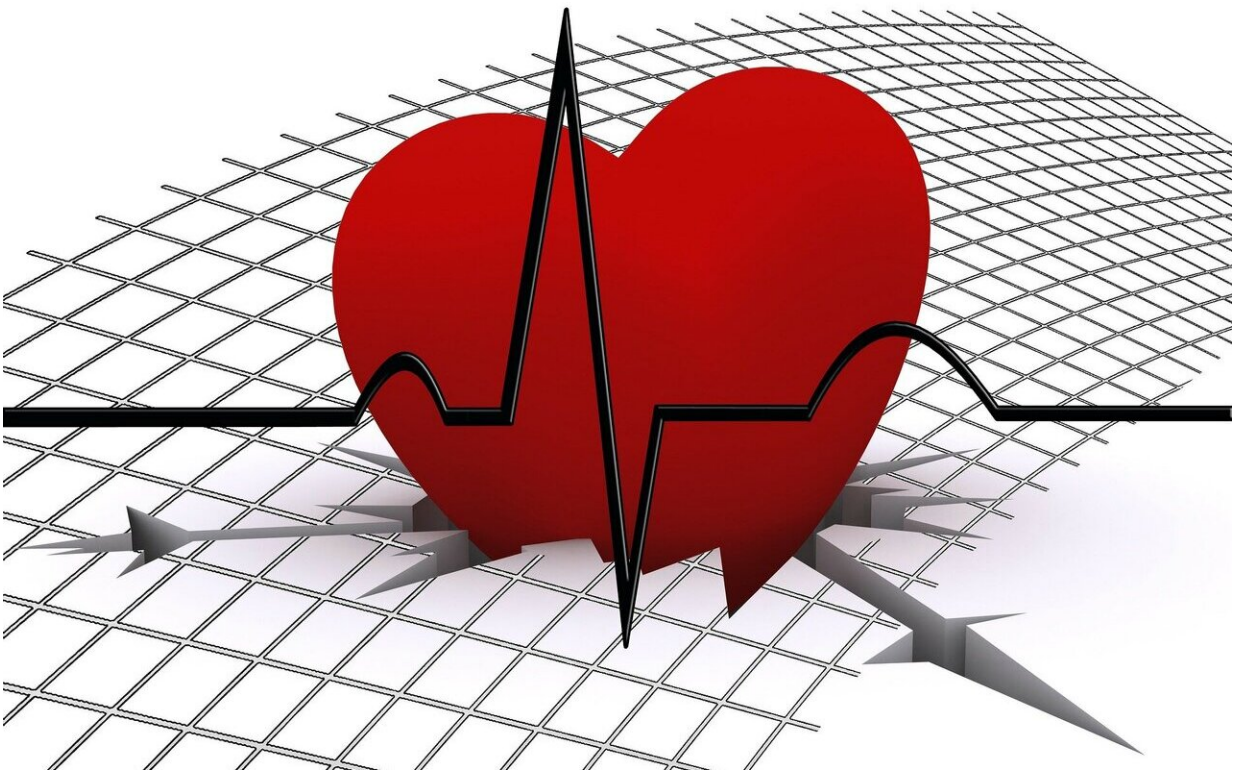


Sitting more is associated with higher heart disease risk in older women

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Longer sitting times were associated with higher levels of heart disease risk among overweight and obese post-menopausal women overall, according to new research published today in the *Journal of the*

American Heart Association, the open access journal of the American Heart Association.

In this [observational study](#), researchers measured the sitting habits of older [women](#) (after menopause; age >55 years) and who were overweight or obese. Data from study participants was analyzed as a single group and by two ethnic groups—Hispanic women or non-Hispanic women—in order to determine if total sitting time and/or average uninterrupted sitting periods may have an impact on heart disease risk factors and whether these relationships varied by ethnicity.

From this data, the average total sitting time per day and the average time that participants spent in periods of uninterrupted sitting were calculated. Post-menopausal Hispanic women sat, on average, almost one hour less per day than non-Hispanic women of the same age group. They also spent significantly less time in uninterrupted sitting. However, each additional 15-minute increase in uninterrupted sitting was linked with about a 5% higher fasting blood sugar in Hispanic women, compared to a less than 1% increase in non-Hispanic women.

The study included a total of 518 women with an average age of 63 years and an average body mass index (BMI) of 31 kg/m² (the clinical definition of obesity is a BMI >30). Study participants wore accelerometers on their right hip for up to 14 days, removing the devices only to sleep, shower or swim. The accelerometers were used to track and record sitting and physical activity of the study participants throughout the day. A single blood test, concurrent with accelerometer wear, measured blood sugar and [insulin](#) resistance.

"We were surprised to observe such a strong negative link between the amount of time spent sitting and insulin resistance, and that this association was still strong after we accounted for exercise and obesity," said lead study author Dorothy D. Sears, Ph.D., professor of nutrition at

the Arizona State University College of Health Solutions in Phoenix. Insulin resistance is a strong risk factor for both cardiovascular disease and type 2 diabetes.

Analysis of the data revealed the following:

- Post-menopausal Hispanic women sat an average of about 8-1/2 hours per day, compared to more than 9 hours per day among non-Hispanic women;
- Each additional hour of sitting time per day was linked with a more than 6% higher fasting insulin and a more than 7% increase in insulin resistance; and
- Each additional 15 minutes in average sitting period was associated with a greater than 7% higher fasting insulin and an almost 9% increase in [insulin resistance](#).

The analyses were adjusted for age, education, marital status, physical functioning and ethnicity.

Sears added, "The findings of this study build upon earlier research including our own, which showed, among older women, that too much time in sedentary behaviors was associated with higher risk for diabetes and heart disease. Reducing sitting time improves glucose control and blood flow, and engaging in physical activities, even light-intensity daily life activities like cooking and shopping, show favorable associations with reduced mortality risk and prevention of heart disease and stroke."

"In addition, Hispanics are a population that is understudied with respect to health risks," said Sears. "Hispanic women may have genetic differences that may increase the negative effects that sitting has on blood sugar. Health care providers should encourage patients, including older adults, to reduce their sitting time, take breaks in their sitting time and replace sitting with brief periods of standing or light physical

activity."

Provided by American Heart Association

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