

Older adults who get physical can lower their heart disease risk

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Human heart. Credit: copyright American Heart Association

Adults in their early 60s, who spend less time sitting and more time engaged in light to vigorous physical activity, benefit with healthier levels of heart and vessel disease markers, according to new research in *Journal of the American Heart Association*, the Open Access Journal of

the American Heart Association/American Stroke Association.

The results from increased physical [activity](#) were found to be particularly good among women.

Physical inactivity is a well-known risk factor for [cardiovascular disease](#) and premature death from cardiovascular disease. Physical activity's protective effect is likely due in part to its impact on biomarkers in the blood that help predict atherosclerosis risk.

"The 60 to 64 age range represents an important transition between work and retirement, when lifestyle behaviors tend to change," said Ahmed Elhakeem, Ph.D., study author and senior research associate in epidemiology at Bristol Medical School, University of Bristol in the United Kingdom. "It may, therefore, be an opportunity to promote increased physical activity.

"In addition, cardiovascular disease risk is higher in older adults. It's important to understand how activity might influence risk in this age group," Elhakeem said. "We found it's important to replace time spent sedentary with any intensity level of activity."

Researchers studied more than 1,600 British volunteers, age 60 to 64, who wore heart rate and movement sensors for five days. The sensors revealed not only how much physical activity, in general, they were doing, but also how much light physical activity, such as slow walking, stretching, golfing or gardening, versus moderate-to-vigorous activity, such as brisk walking, bicycling, dancing, tennis, squash, lawn mowing or vacuuming.

Researchers analyzed participants' blood levels for markers of cardiovascular disease, including inflammatory markers C-reactive protein and interleukin 6 (IL-6); endothelial markers, tissue-plasminogen

activator (t-PA), the molecule E-Selectin (a cell adhesion molecule that plays an important part in inflammation); and cholesterol markers leptin and adiponectin.

"We focused on these atherosclerosis biomarkers as they are less studied and have been shown to predict risk of cardiovascular events and death," Elhakeem said.

Researchers found:

- Each additional 10-minutes spent in moderate-to-vigorous intensity activity was associated with leptin levels that were 3.7 percent lower in men and 6.6 percent lower in women.
- Each additional 10-minutes spent sedentary was associated with 0.6 percent higher IL-6 levels in men and 1.4 percent higher IL-6 levels in women.
- Each additional 10-minutes spent in light intensity activity was associated with around 0.8% lower t-PA levels in both men and women.
- Less sedentary time and greater time in low-intensity activity were beneficially related to IL-6 and t-PA, regardless of time spent at higher intensity activity.
- Those with better cardiorespiratory fitness (based on an oxygen uptake step test) also had a healthier [biomarker](#) profile, though this effect largely disappeared after controlling for related differences in body fat.
- Total activity volume appeared related to these biomarkers independently of underlying cardiorespiratory fitness.
- E-selectin was the only biomarker which showed no notable associations with physical activity and sedentary time (but was related to fitness levels).

Based on the study's findings, physical activity might lower

[cardiovascular disease risk](#) by improving blood vessel function. Increased [sedentary time](#) may be adversely related to endothelial function, researchers said.

The study measured activity and biomarkers at the same time and didn't establish whether activity influenced the biomarkers, or the biomarkers influenced activity, Elhakeem said.

To improve overall cardiovascular health, the American Heart Association suggests at least 150 minutes a week of moderate intensity or 75 minutes a week of vigorous-intensity aerobic [physical activity](#) (or a combination of the two) and muscle-strengthening exercises two or more days a week.

More information: *Journal of the American Heart Association* (2018). [DOI: 10.1161/JAHA.117.007459](https://doi.org/10.1161/JAHA.117.007459)

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