

What young adults can do to prevent heart attacks and strokes

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Clogged arteries—which can lead to heart attacks and strokes—can begin to develop in young adulthood. But a new study suggests it may be less likely to happen to those who better adhere to a set of lifestyle behaviors and factors such as maintaining a healthy weight and controlling blood pressure and cholesterol.

The research, [published](#) in the *Journal of the American Heart Association*, analyzed the association between young adults' adherence to metrics for measuring [cardiovascular health](#) and early indicators of plaque buildup in the carotid arteries—the arteries in the neck that supply blood to the brain. Blockages in these arteries can lead to strokes.

"Many people think cardiovascular disease affects only [older adults](#), but that's not accurate," said Dr. Fangqi Guo, lead author of the study and a postdoctoral research associate in the department of population and public health sciences at the University of Southern California's Keck School of Medicine in Los Angeles.

"Clinical symptoms of cardiovascular disease often manifest in middle to late adulthood, but this can start developing as early as childhood."

Plaque buildup, known as atherosclerosis, can partially or totally block blood flow, leading to strokes, heart disease and kidney disease. The new study looked at early signs of its development in young adults by measuring the thickness of carotid artery walls; carotid artery stiffness; and fat deposits in carotid artery walls.

Cardiovascular health risk was measured by two sets of metrics—one old, one new—developed by the American Heart Association. The old tool, called Life's Simple 7, or LS7, includes four health factors—body mass index, total cholesterol, blood sugar and blood pressure—and three

health behaviors: diet, physical activity and smoking.

The new tool, released in mid-2022 and renamed Life's Essential 8, or LE8, added healthy sleep duration as an essential component of good heart and brain health. The new checklist also replaced smoking with nicotine exposure to account for e-cigarette use and secondhand smoke exposure, and the total cholesterol measurement was changed to non-HDL cholesterol.

Researchers calculated scores for both tools so they could compare data collected prior to and after the change.

Guo and her colleagues analyzed data for 240 young adults, 21 to 27 years old, who had a carotid artery ultrasound between 2018 and 2022 as part of the Southern California Children's Health Study.

LS7 and LE8 scores were determined using self-reported questionnaires for health behaviors, as well as measurements taken from blood tests and physical exams for health factors. LS7 adherence was calculated as ideal, intermediate or poor, and LE8 adherence was calculated on a scale from zero to 100 and then categorized as ideal, intermediate or poor based on the score.

Study participants with higher LE8 scores had less thick carotid artery walls, less arterial stiffness and healthier carotid arteries. Similar associations were found using LS7 scores. Overall, as cardiovascular health scores rose, early signs of atherosclerosis decreased.

Researchers found a stronger link between carotid artery health and health factors like blood pressure than health behaviors like physical activity. That could be because the participants were too young for the consequences of poor health behaviors to manifest into health problems, Guo said.

"The impact of health behaviors may not yet be readily apparent," she said. Also, because behaviors were self-reported, that data might not be as accurate as the more objectively measured health factors.

Young adults should be made aware of the risks of failing to adhere to good health behaviors, Guo said. "Even if they appear healthy, some of these risk factors may have already started developing. Understanding this and improving adherence to LE8 could potentially improve their cardiovascular health in the long run."

But young adults are growing less—not more—aware of the risks posed by heart disease, according to a 2019 AHA survey. Awareness also dropped during the previous decade among Black women, who have high rates of high [blood pressure](#) and other [cardiovascular disease](#) risk factors because of systemic barriers that have harmed their health for decades.

"Chronic illness takes time to develop," said Dr. Sparkle Springfield, an assistant professor of public health science at Loyola University in Chicago. "Some of these metabolic dysfunctions start to develop much earlier in life."

Young adults—especially Black women—are dealing with a lot of stressors that may make it more challenging to maintain good health, said Springfield, who was not involved in the new study. Her own research suggests young Black women with high levels of stress have poor adherence to LE8's healthy diet component, and young adults overall have poorer diet quality and less psychological resilience than older adults.

Young people are going through many life transitions, such as graduating from high school or college, launching a career, trying to find affordable housing and starting a family, Springfield said. In the case of young

Black adults, they may be doing all of these things while also dealing with racial discrimination and other negative social determinants of health, she said.

"If you don't already have healthy behaviors in place during childhood, it can be even more challenging to make positive changes as a young adult," Springfield said. "And if you don't follow the LE8 guidelines, the evidence suggests you will likely develop chronic disease."

More information: Fangqi Guo et al, Association Between Cardiovascular Health and Subclinical Atherosclerosis Among Young Adults Using the American Heart Association's "Life's Essential 8" Metrics, *Journal of the American Heart Association* (2024). [DOI: 10.1161/JAHA.123.033990](https://doi.org/10.1161/JAHA.123.033990)

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