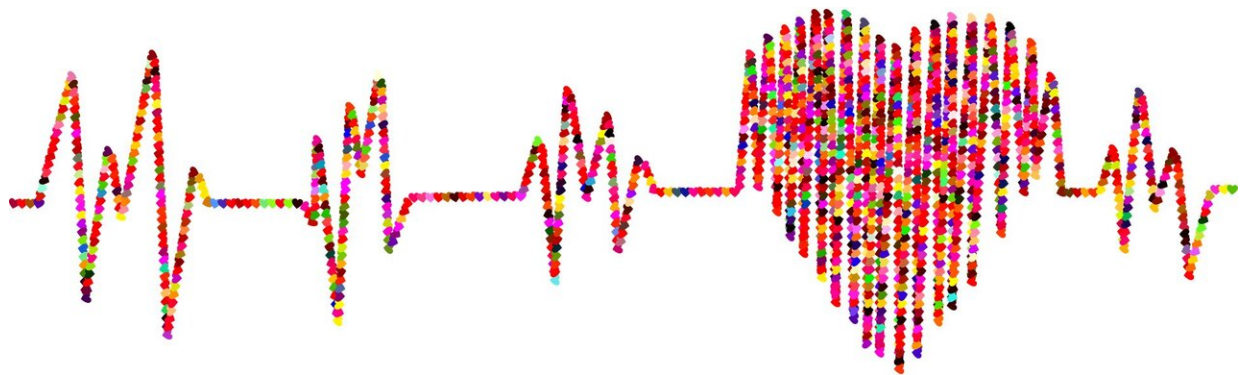


Middle-aged adults with healthy heart habits may lower high blood pressure risk years later

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Better heart health, as measured by the American Heart Association's Life's Simple 7 (LS7) scale, was associated with a significantly lower risk of developing high blood pressure (also known as hypertension) in middle-aged, Black and white adults, according to new research published today in the *Journal of the American Heart Association*, an open access journal of the American Heart Association.

"High [blood pressure](#) is among the most common conditions in the U.S., and it contributes to the greatest burden of disability and largest reduction in [healthy life expectancy](#) among any disease," said Timothy B. Plante, M.D., M.H.S., lead study author and assistant professor in the department of medicine at the Larner College of Medicine at the University of Vermont in Burlington. "Even though [high blood pressure](#) causes so much death and disability, we don't know the root cause of it."

The study included 2,930 Black and white adults, ages 45 and older, from the REasons for Geographic and Racial Disparities in Stroke (REGARDS) study, who were selected using mail and telephone outreach from 2003-2007 and a second visit completed in 2013-2016. Participants with high blood pressure, defined as $\geq 130/80$ mm Hg, were excluded, leaving only those who were free from hypertension at the start of the study. Researchers examined the association of high and low LS7 scores with the risk of developing high blood pressure within 10 years.

The LS7 is a measure of a person's overall cardiovascular health. The tool incorporates seven known lifestyle behaviors and health risk factors—body mass index; diet; smoking; physical activity; and blood pressure, cholesterol and blood sugar levels—into a single metric to estimate cardiovascular risk. The highest possible LS7 score is 14, and there are three rankings for cardiovascular health: 10 to 14 is ideal; 5 to 9 is average; and 0 to 4 is poor.

Researchers found:

Among 2,930 participants without high blood pressure (20% Black adults, 80% white adults), the median LS7 total score was in the "average category" (9 points).

Over about a 9-year follow-up, 42% of participants developed high

blood pressure. The incidence in Black adults was 52% in women and 50% in men; and among white adults, 37% of women and 42% of men developed high blood pressure. Each one-point higher LS7 score correlated with a 6% [lower risk](#) of high blood pressure. (This result was a graded response that occurred continuously across the entire LS7 spectrum—from poor to ideal LS7 scores.) No significant difference was seen by race or sex.

The same results were produced in two separate analyses: one using the 2017 ACC/AHA updated guideline for high blood pressure of $\geq 130/80$ mm Hg, and the other using the previous high blood pressure criteria of $\geq 140/90$ mm Hg.

"Among [middle-aged people](#) without hypertension, there is still a huge benefit to seeking optimal cardiovascular health," Plante said. "These findings support the current clinical practice recommendations of lifestyle modifications such as eating better, quitting smoking and maintaining a healthy weight to all people, including those without high blood pressure."

The finding is especially important for Black Americans, who have the highest rate of high blood pressure among any group in the world and develop the condition at a younger age and with more severity.

"Focusing on a patient-centered approach can potentially optimize cardiovascular health among Black and white patients alike," Plante said. "We recommend tailoring step-wise health improvement and lifestyle changes for patients. For example, patients might not be receptive to quitting smoking today; however, if they are receptive to getting more exercise today, that would be a one-point LS7 score improvement."

The study is limited in that it only points to an association between LS7 scores and risk of developing high blood pressure. The next step is to

conduct a randomized trial to confirm improving LS7 scores can help reduce the risk of high blood pressure.

"It's encouraging to see that the benefits of greater cardiovascular health, as measured by Life's Simple 7, extend to lower rates of hypertension in adults. This suggests that optimizing the behavioral risk factors central to Life's Simple 7 could be an important way for patients to manage their risk factors," said Donald Lloyd-Jones, M.D., Sc.M., FAHA, chair of the department of preventive medicine at Northwestern University, AHA President-elect and part of the group that developed the Life's Simple 7 scale and criteria. "If we can reach more people in younger and middle age with this type of lifestyle assessment, we could be looking at strong improvements in health overall."

More information: Timothy B. Plante et al, Life's Simple 7 and Incident Hypertension: The REGARDS Study, *Journal of the American Heart Association* (2020). [DOI: 10.1161/JAHA.120.016482](https://doi.org/10.1161/JAHA.120.016482)

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