

Middle-age blood pressure changes affect lifetime heart disease, stroke risk

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An increase or decrease in your blood pressure during middle age can significantly impact your lifetime risk for cardiovascular disease (CVD), according to research in *Circulation: Journal of the American Heart Association*.

Researchers found people who maintained or reduced their [blood pressure](#) to normal levels by age 55 had the lowest [lifetime risk](#) for CVD (between 22 percent to 41 percent risk). In contrast, those who had already developed [high blood pressure](#) by age 55 had a higher lifetime risk (between 42 percent to 69 percent risk).

Using data from 61,585 participants in the Cardiovascular Lifetime Risk Pooling Project, researchers examined how changes in blood pressure during middle age affected lifetime CVD risk. Previous studies had considered a single measurement at a given age. In this study, age 55 was considered a mid-point for middle age.

Starting with baseline blood pressure readings from an average of 14 years prior, researchers tracked blood pressure changes until age 55, then continued to follow the patients until the occurrence of a first [cardiovascular event](#) (including [heart attack](#) or stroke), death or age 95.

"Taking blood pressure changes into account can provide more accurate estimates for lifetime [risk of cardiovascular disease](#), and it can help us predict individualized risk, and thus, individualized prevention strategies," said Norrina Allen, Ph.D., lead author of the study and assistant professor in the Department of Preventive Medicine at the Northwestern University Feinberg School of Medicine in Chicago. "Both avoiding hypertension during middle age or delaying the onset of the development of hypertension appear to have a significant impact on an individual's remaining lifetime risk for CVD."

Researchers also found:

- Almost 70 percent of all men who develop high blood pressure in middle age will experience a CVD event by 85.
- Women who develop high blood pressure by early middle-age (average age 41) have a higher lifetime risk for CVD (49.4 percent) than those who have maintained normal blood pressure up to age 55.
- Women, in general, had higher increases in blood pressure during middle age.
- At an average age 55, 25.7 percent of men and 40.8 percent of women had normal blood pressure levels; 49.4 percent of men and 47.5 of women had prehypertension.
- The overall lifetime CVD risk for people 55 years or older was 52.5 percent for men and 39.9 percent for women, when factoring in all blood pressure levels.
- The lifetime risk for CVD was higher among Blacks compared with Whites of the same sex, and increased with rising blood pressure at middle age.

"Since the data suggests that both early elevations and changes over time in blood pressure measurements impact the future risk of CVD, people can take preventive steps early on to reduce their chances of heart attack or stroke," said Donald M. Lloyd-Jones, M.D., Sc.M., co-author of the study and chair of the Department of [Preventive Medicine](#) at the Northwestern University Feinberg School of Medicine. "Maintaining a healthy diet, combined with exercise and weight control, can help reduce blood pressure levels and, consequently, your risk for CVD later in life."

Provided by American Heart Association

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