

Physical fitness may reduce hypertension risk in people with family history

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If your parents have a history of high blood pressure, you can significantly reduce your risk of developing the disease with moderate exercise and increased cardiovascular fitness, according to new research in the American Heart Association's journal *Hypertension*.

In a study of more than 6,000 people, those who had a parent with high blood pressure but were highly fit had a 34 percent lower risk of developing high blood pressure themselves, compared to those with a low-fitness level who had the same parental history.

"Understanding the roles that family history and fitness play in [chronic diseases](#) is critically important," said Robin P. Shook, M.S., study lead author and a doctoral graduate student in the Arnold School of Public Health at the University of South Carolina in Columbia. "The results of this study send a very practical message, which is that even a very realistic, moderate amount of exercise — which we define as brisk walking for 150 minutes per week — can provide a huge health benefit, particularly to people predisposed to hypertension because of their family history."

Previous research indicates that parental history accounts for about 35 percent to 65 percent of the variability in [blood pressure](#) among offspring, with varying levels of risk based on which parent developed it and the age of onset.

Researchers followed a group of 6,278 predominantly Caucasian adults

20- to 80-years-old for an average 4.7 years. The participants were patients of the Cooper Clinic, a non-profit organization dedicated to preventive medicine, research and education in Dallas. Thirty-three percent of participants reported that a parent had hypertension.

When the study began, all participants were healthy, reported no physician diagnosis of hypertension, and achieved an exercise test score of at least 85 percent of their age-predicted maximal heart rate. Researchers determined participants' cardiorespiratory fitness using a maximal treadmill exercise test.

During the study, 1,545 participants reported they had developed hypertension.

Researchers found that:

- Combining those with and without a [family history](#) of [high blood pressure](#), high levels of fitness were associated with a 42 percent lower risk of developing hypertension, and moderate levels of fitness with a 26 percent lower risk.
- People with both a low level of fitness and a parent with hypertension had a 70 percent higher risk for developing hypertension compared with highly fit people with no parental history.
- Those with a high level of fitness and a parent with hypertension experienced only a 16 percent higher risk of developing [hypertension](#) compared to those who were fit and had no parental history.

"The correlation between [fitness](#) levels, parental history and risk are impossible to ignore," Shook said. "This awareness can serve the clinician and the patient, as they work together to find effective and

reasonable ways to avoid the diseases that have affected their family members — in some cases, for generations."

The research findings may not apply to all people because the majority of the study participants were relatively fit, well-educated, middle to upper class white men.

The findings support the American Heart Association's recommendations of moderately intense physical activity, such as brisk walking, for 30 minutes or longer at least five days a week.

Provided by American Heart Association

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