

Abnormal blood pressure in middle and late life influences dementia risk

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In a study that spanned two and a half decades and looked at data from more than 4,700 participants, Johns Hopkins researchers have added to evidence that abnormal blood pressure in midlife persisting into late life increases the likelihood of developing dementia. Although not designed to show cause and effect, the study suggests that maintaining a healthy blood pressure throughout life may be one way to help decrease one's risk of losing brain function.

"Our results suggest that one's blood pressure during midlife may influence how blood pressure later in life relates to dementia risk," says Keenan Walker, Ph.D., assistant professor of neurology at the Johns Hopkins University School of Medicine. "We found that individuals with [high blood pressure](#) in midlife may benefit from targeting their blood pressure to normal levels in later life, as having blood pressure that is too high or too low in late life may further increase dementia risk."

In their study, they found that those people with the high blood pressure condition hypertension during middle age and during late life were 49% more likely to develop dementia than those with normal

blood pressure at both times. But, putting one at even greater risk was having hypertension in middle age and then having low blood pressure in late life, which increased one's dementia risk by 62%. The findings were published Aug. 13 in *JAMA*.

High blood pressure was considered any measurement more than 140/90 millimeters of mercury, whereas low blood pressure was defined as less than 90/60 millimeters of mercury. A cognitive exam, caregiver reports, hospitalization discharge codes and death certificates were used to classify participant [brain function](#) and determine [cognitive impairment](#).

High blood pressure can be genetic, but can also be the result of not enough exercise and poor diet. As people age, the top blood pressure number (systolic) oftentimes increases while the bottom number (diastolic) can decrease due to structural changes in the blood vessels. Walker says dementia itself may lead to a lowering of blood pressure, as it may disrupt the brain's autonomic nervous system. Stiffening of the arteries from disease and physical frailty can also lead to [low blood pressure](#) in late life.

According to the Centers for Disease Control and Prevention, 75 million people in the U.S. have high blood pressure, and high [blood pressure](#) can raise the risk for heart disease, as well as other health conditions.

More information: Keenan A. Walker et al. Association of Midlife to Late-Life Blood Pressure Patterns With Incident Dementia, *JAMA* (2019). [DOI: 10.1001/jama.2019.10575](https://doi.org/10.1001/jama.2019.10575)

Provided by Johns Hopkins University

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