

Enlarged heart linked to a higher risk of dementia

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3D Model of the heart by Dr. Matthew Bramlet. Credit: NIH

Left ventricular hypertrophy (LVH), also known as an enlarged heart, is associated with a nearly two times higher risk of dementia according to a recent University of Minnesota School of Public Health study published

in the *American Heart Journal*.

LVH is a condition in which the muscle wall of the heart's left pumping chamber (ventricle) becomes thickened (hypertrophy). The heart is a muscle, and like other muscles, it gets bigger if it is worked hard over time. The most common cause of LVH is high blood pressure (hypertension).

Researchers, led by Faye Norby, a research fellow and Ph.D. student in the School of Public Health, studied participants in the Atherosclerosis Risk in Communities (ARIC) study, which is a large cohort from four communities in the U.S. that has been followed for more than 30 years.

The study included 12,665 white and black individuals whose average age at the start of the study (1990-1992) was 57. Researchers tested participants for about 20 years on their cognitive function and the development of dementia.

The study found that:

- In mid-life (ages 57-63), approximately four percent of participants had LVH and nearly nine percent of the entire cohort developed dementia in the next 20 years.
- Those with LVH in mid-life had a nearly two times higher risk of dementia.
- Those with LVH had lower cognitive scores at the beginning of the study, likely due to their long-term hypertension exposure.
- There was no difference in the rate of cognitive decline over 20 years in those with LVH versus those without LVH, but this could be due to the lower scores in those with LVH at baseline.

"These results underscore the need for hypertension control to prevent injury to the [brain tissue](#) and the development of [dementia](#)," said Norby.

"We recommend that people get regular blood pressure checks throughout their adult life to monitor their [blood pressure](#). If someone does have [high blood pressure](#), it is important to treat it and try to get it back to a normal level so that he or she does not develop LVH."

More information: Faye L. Norby et al. Association of left ventricular hypertrophy with cognitive decline and dementia risk over 20 years: The Atherosclerosis Risk In Communities–Neurocognitive Study (ARIC-NCS), *American Heart Journal* (2018). [DOI: 10.1016/j.ahj.2018.07.007](https://doi.org/10.1016/j.ahj.2018.07.007)

Provided by University of Minnesota

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