

Common irregular heartbeat raises risk of dementia

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The most common kind of chronically irregular heartbeat, known as atrial fibrillation, is associated with a greater risk of dementia, including Alzheimer's disease. This discovery by scientists at Group Health Research Institute and their collaborators was published online in advance of print on August 1 in the *Journal of the American Geriatrics Society*.

"Both atrial fibrillation and [dementia](#) increase with age," said Sascha Dublin, MD, PhD, a Group Health Research Institute assistant investigator who led the research. "Before our prospective cohort study, we knew that atrial fibrillation can cause stroke, which can lead to dementia. Now we've learned that atrial fibrillation may increase dementia risk in other, more subtle ways as well."

The results of Dr. Dublin's study suggest a relationship between atrial fibrillation and dementia beyond the connection through stroke. The people in the study had a mean age of 74 years when the study began. None had dementia or a history of stroke. At the beginning of the study, 4.3 percent had atrial fibrillation, and an additional 12.2 percent developed it during the study. In the course of the study, 18.8 percent developed some type of dementia. People with atrial fibrillation were more likely to have other [cardiovascular risk factors](#) and disease than were those without the condition. So the researchers looked to see if atrial fibrillation increased dementia risk more than just through its association with other kinds of [heart disease](#).

Participants were followed for an average of seven years. Over this time, those with atrial fibrillation had a 40 percent to 50 percent higher risk of developing dementia of any type, including probable Alzheimer's disease, compared to those without atrial fibrillation. This was true even for people who did not also have a stroke during the follow-up period.

The research was part of Adult Changes in Thought (ACT), an ongoing joint project of the Group Health and University of Washington studying risk factors for dementia in older adults. Started in 1994 ACT is led by Dr. Dublin's co-author Group Health Vice President for Research and Group Health Research Institute Executive Director Eric B. Larson, MD, MPH. ACT focuses on finding ways to delay or prevent dementia, including Alzheimer's disease, and declines in memory and thinking. It aims to deepen understanding of how the body—especially the brain—ages. ACT participants are members of Group Health Cooperative, a nonprofit health care system in the U.S. Pacific Northwest.

Dr. Dublin's study, which ran from 1994 to 2008, followed 3,045 people. The researchers relied on Group Health's advanced electronic data systems to determine whether participants had atrial fibrillation. The cognitive function of all study participants was evaluated every two years with tests and interviews as part of ACT. Patients whose ACT tests indicated possible dementia had additional tests including physical, neurological, and psychological exams, and many also had brain scans. A panel of experts determined the correct diagnosis for patients with cognitive problems.

Atrial fibrillation affects 3 million Americans. Dr. Dublin says that some ways it might increase dementia risk are:

- weakening the heart's pumping ability, leading to less oxygen going to the brain;

- increasing the chance of tiny blood clots going to the brain, causing small, clinically undetected strokes;
- a combination of these plus other factors that contribute to dementia such as inflammation.

Dr. Dublin said an important next step is studying whether any treatments for atrial fibrillation reduce the risk of developing dementia. The researchers also hope their results reach primary care providers, who are often the main doctors caring for people with atrial fibrillation, dementia, or both.

"Right now, we think we are protecting our patients' brains as long as they don't have a stroke, but tiny insults over time can add up," said Dr. Dublin, who is a primary care physician at Group Health. "This paper is a wakeup call, telling us that we need to learn more about how to protect brain function, while continuing to give patients with [atrial fibrillation](#) the best possible care."

Provided by Group Health Research Institute

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