

# Slowing brain functions linked to increased risk of stroke, death

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Cognitive abilities such as memory and attention are not only important after a stroke but also before; according to research published in the American Heart Association journal *Stroke*.

Previous studies have shown poor cardiovascular health can increase the risk of cognitive impairment such as problems in memory and learning. However, the opposite idea that cognitive impairment may impact cardiovascular health, specifically stroke, was not established before.

"Most clinical studies observe [cognitive impairment](#) after a stroke event, said Kumar Rajan, Ph.D., lead author of the study and assistant professor of internal medicine at Rush University Medical Center in Chicago, IL. "Only a handful of large population-based studies measured long-term [cognitive functioning](#) before stroke and deaths from all different causes."

Researchers analyzed data on cognitive function in 7,217 adults (61 percent African-American and 59 percent women) over the age of 65. They gave them four tests every three years that evaluated participants' [cognitive abilities](#) such as short- and long-term memory, attention, awareness and other mental functions before and after a stroke.

Researchers found:

- Those with lower cognitive test scores before a stroke had a 61 percent higher chance of a stroke.

- After stroke, cognitive function declined almost twice as fast compared to those before stroke.
- Stroke coupled with cognitive decline increased the risk of death.
- Declining cognitive function before stroke increased the risk of stroke five-fold in African-Americans compared to European-Americans.

"Stroke in old age can be caused by poor cognitive function; whereas, faster decline in cognitive function can be caused by stroke," Rajan said. "Low cognitive function is generally associated with poor neurological health and brain function. Worsening of neurological health can lead to several health problems with stroke being one of them."

Examining mental health may help prevent future strokes in older adults, Rajan said.

"From a care standpoint, cognitive decline is not only a strong marker for neurological deterioration and physical health in older adults, but also serves as a marker for stroke in old age," he said.

Researchers also found a strong link between low cognitive function and death. Participants with previous strokes had lower baseline cognitive scores on all four tests and 78 percent died during follow-ups.

"Being healthy and active through both physical and cognitive activities may help slow down [cognitive decline](#)," Rajan said.

In the United States, stroke is a leading cause of disability and the No. 4 cause of death. A [stroke](#) occurs when blood supply is cut off from parts of the brain. The brain's temporary blood loss can lead to serious physical and mental disabilities.

Provided by American Heart Association

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