

# Cognitive, functional decline detected prior to stroke

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(HealthDay)—Patients with stroke have steeper declines in cognition

and daily functioning up to 10 years before incident stroke compared with stroke-free controls, according to a study published online July 6 in the *Journal of Neurology, Neurosurgery & Psychiatry*.

Alis Heshmatollah, from Erasmus MC University Medical Center in Rotterdam, Netherlands, and colleagues repeatedly assessed cognition and basic and instrumental activities of daily living (BADL and IADL) among 14,712 participants within the Rotterdam Study between 1990 and 2016. Medical records were continually monitored until 2018 to assess incident [stroke](#). Participants with incident stroke were matched in a 1:3 ratio to stroke-free participants. The trajectories of cognition and daily functioning were examined for 10 years before and after stroke and were compared to the corresponding trajectories of stroke-free individuals.

The researchers found that 1,662 participants had a first-ever stroke during a mean follow-up of  $12.5 \pm 6.8$  years. In terms of cognition and daily functioning, individuals who had a stroke deviated from stroke-free controls up to 10 years before stroke diagnosis. Before stroke, significant deviations were seen in the Mini-Mental State Examination (significant difference at 6.4 years before stroke), Stroop (5.7 years), Purdue Pegboard (3.8 years), and BADL and IADL (2.2 and 3.0 years, respectively) scores.

"Our findings demonstrated that future stroke patients start to deviate from stroke-free controls up to 10 years before the acute event, suggesting that individuals with [cognitive](#) and functional decline are at a higher risk of stroke and are possible candidates for prevention trials," the authors write. "The accelerated decline in cognition and daily functioning before stroke suggests that individuals with future stroke suffer from accumulating intracerebral damage years before the acute event, such as cerebral small vessel disease, neurodegeneration, and inflammation."

**More information:** [Abstract/Full Text](#)

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