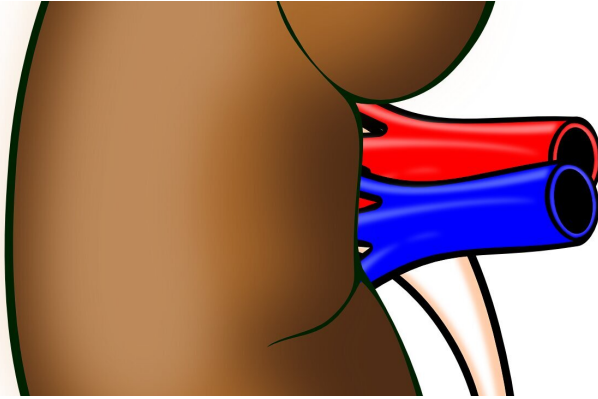


# Kidney problems as a young adult may affect thinking skills in midlife

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If you have moderate-to-high risk of kidney failure as a young adult, you may be at risk for worse cognitive function in middle age, according to a study published in the September 2, 2020, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

"We know that people with complete [kidney](#) failure are about three times more likely to have thinking, learning, and remembering problems than their peers," said study author Sanaz Sedaghat, Ph.D., of Northwestern University Feinberg School of Medicine, in Chicago, Ill., and a member of the American Academy of Neurology. "Our study shows that if your kidney function starts declining as early as your 30s, you may perform like someone nine years older on certain [cognitive tests](#) 20 years later. Yet many people can have a decline in kidney function without being aware of it."

The study involved 2,604 people with an average age of 35 at the start of the study. Participants had blood and urine tests to measure kidney function every five years for 20 years. The results of those tests were used to estimate each person's risk of

kidney failure at each visit. The participants were then put into three groups: no episodes of kidney failure risk, one episode of kidney failure risk, and more than one episode of kidney failure risk. At the end of the study, participants took thinking and memory tests, including tests that measure executive function, memory, [impulse control](#) and verbal fluency.

Over the course of 20 years, 427 participants had one or more episodes of kidney failure risk, putting them in the higher risk group. Controlling for other factors that could affect thinking skills, such as high cholesterol, high blood pressure and diabetes, the high-risk group scored on average four times lower on overall thinking tests compared to the group with no risk.

"Comparing the estimated effect of age on thinking skills to the effect of kidney failure risk, we observed that the people who had high risk of kidney failure were performing in their thinking tests as if they were about nine years older than those in the group with no risk," Sedaghat said. "Recent studies indicate that even losing just a small amount of kidney function can be toxic for the brain and increase the risk of cognitive decline. Our study adds to the evidence and suggests preserving [kidney function](#) in young age needs to be investigated as a potential strategy to keep thinking skills sharp in midlife."

A limitation of the study is that while blood and [urine tests](#) were conducted every five years, thinking and [memory tests](#) were only conducted at the end of the study. Future studies should include multiple measurements of thinking and memory skills.

Provided by American Academy of Neurology

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