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[American Psychological Association](#)

High-normal uric acid linked with mild cognitive impairment in the elderly

WASHINGTON -- Researchers at the Johns Hopkins and Yale university medical schools have found that a simple blood test to measure uric acid, a measure of kidney function, might reveal a risk factor for cognitive problems in old age. Of 96 community-dwelling adults aged 60 to 92 years, those with uric-acid levels at the high end of the normal range had the lowest scores on tests of mental processing speed, verbal memory and working memory.

The findings appear in the January issue of *Neuropsychology*, which is published by the American Psychological Association (APA).

High-normal uric acid levels, defined in this study as 5.8 to 7.6 mg/dL for men and 4.8 to 7.1 mg/dL for women, were more likely to be associated with cognitive problems even when the researchers controlled for age, sex, weight, race, education, diabetes, hypertension, smoking and alcohol abuse. These findings suggest that older people with serum (blood) uric-acid levels in the high end of the normal range are more likely to process information slowly and experience failures of verbal and working memory, as measured by the Wechsler Adult Intelligence Scale and other well-established neuropsychological tests.

"It might be useful for primary-care physicians to ask elderly adults with high normal serum uric acid about any problems they might be having with their thinking, and perhaps refer those who express concern, or whose family members express concern, for neuropsychological screening," says lead author David Schretlen, PhD.

The link between high-normal uric acid and cognitive problems is also sufficiently intriguing for the authors to propose clinical studies of whether medicines that reduce uric acid, such as allopurinol, can help older people with high-normal uric acid avoid developing the mild cognitive deficits that often precede dementia.

For reasons that are not entirely clear, uric acid levels increase with age, says Dr. Schretlen. Higher levels of uric acid are linked with known risk factors for dementia, including high blood pressure, atherosclerosis, Type 2 diabetes and the "metabolic syndrome" of abdominal obesity and insulin resistance. Dr. Schretlen also says there is mounting evidence that end-stage renal (kidney) disease increases the risk of cognitive dysfunction and dementia in elderly adults. Given this web of connections, uric acid could potentially become a valuable biological marker for very early cognitive problems in old age.

The researchers say that it's unclear why mild cognitive problems appear with high-normal uric acid because, paradoxically, uric acid also has anti-oxidant properties that are thought to be protective in other situations. The authors are also researching links between uric acid and vascular damage in the brain and attempting to dissect which aspects of uric acid and its production help or hurt the nervous system.

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Article: "Serum Uric Acid and Cognitive Function in Community-Dwelling Older Adults," David J. Schretlen, PhD, Anjeli B. Inscore, PsyD, H. A. Jinnah, MD, PhD, Vani Rao, MD, and Barry Gordon, MD, PhD, Johns Hopkins University School of Medicine, Godfrey D. Pearlson, MD, Johns Hopkins School of Medicine, Hartford Hospital/Institute of Living, and Yale University School of Medicine; *Neuropsychology*, Vol 21, No. 1

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