

Even a modest reduction in kidney function increases health risks in young adults, finds study

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Research led by Dr. Manish Sood suggests that even a modest reduction in kidney function increases health risks in young adults. Credit: The Ottawa Hospital

A study of more than 8 million adults in Ontario, Canada suggests that even a modest loss of kidney function is associated with increased health risks. The study, published in *The BMJ*, could lead to better approaches to prevent chronic kidney disease and related conditions, particularly in younger adults.

"The dogma is that healthy, young adults don't need to worry about [kidney function](#) unless it drops to around 50% of the normal level, but our research suggests that even a more modest 20-30% drop may have consequences and we may want to have earlier conversations about prevention and monitoring," said senior author Dr. Manish Sood, senior scientist, nephrologist and Jindal Research Chair for the Prevention of Kidney Disease at The Ottawa Hospital and professor at the University of Ottawa.

The research team examined ICES health record data from 2008 to 2021 for every Ontario adult aged 18-65 who had at least one [blood test](#) for kidney function, but no history of kidney disease. They found that 18% of those in the 18-39 age group had kidney function that was modestly below [normal levels](#), but not low enough to be diagnosed with [chronic kidney disease](#). Individuals in this "gray zone" faced a modestly increased risk of kidney failure, death and cardiovascular events such as heart attack.

For example, in [young adults](#) (age 18-39), a 20-30% loss in kidney function was associated with a 1.4-fold increase in death, 1.3-fold increase in a cardiac event and a 6-fold increase in the risk of kidney failure. However, the absolute risk of any of these events was still low, at less than 2 per 1,000.

"Thankfully, the absolute risk for any one individual with kidney function in this gray zone is low, but when we look at the whole population, the impact could be quite significant," said co-senior author

Dr. Greg Knoll, senior scientist, nephrologist and Head of the Department of Medicine at The Ottawa Hospital and the University of Ottawa. "We need further research to confirm these findings and then see if we can reduce the risk through lifestyle modification."

While the test for kidney function (blood creatine) is relatively inexpensive and readily available, the researchers are not suggesting routine testing for all individuals at this time. However, if an individual has had a kidney test that shows a modest reduction in function, it can be a catalyst for a conversation with a health care provider. All individuals can also reduce their risk of kidney disease by eating a [healthy diet](#) with lower salt, exercising regularly and limiting alcohol intake.

Dr. Sood and his colleagues previously developed the [Project BigLife Chronic Kidney Disease calculator](#) to help individuals calculate their kidney disease risk and see the impact of lifestyle changes. The calculator will continue to be refined as new research arises.

More information: Junayd Hussain, Associations between modest reductions in kidney function and adverse outcomes in young adults: retrospective, population based cohort study, *The BMJ* (2023). [DOI: 10.1136/bmj-2023-075062](#)

Provided by The Ottawa Hospital

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