

Slow walking speed linked with premature death in kidney disease patients

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Kidney disease patients who have slower walking speed on physical performance tests seem to be more burdened by their disease than patients who perform well on lower extremity physical performance tests, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology (JASN)*. The findings indicate that measuring lower extremity physical performance may capture a complex set of skeletal muscle and neurologic impairments that develop in CKD patients and substantially affect their survival.

Individuals with [chronic kidney disease](#) (CKD) have increased risks of becoming frail or disabled—somewhat like the elderly—and of dying from heart-related problems. Physical performance tests are often used to assess frailty and overall health in the elderly, but little is known about whether physical performance might be used to identify younger CKD patients at [high risk](#) of dying prematurely.

To study the issue, Baback Roshanravan, MD MS (Kidney Research Institute, Division of Nephrology at the University of Washington) and his colleagues followed 385 patients with CKD without a history of stroke or disability and with an average age of 61 years. The researchers compared handgrip strength, usual walking speed, six-minute walking distance, and timed up and go (the time that a person takes to rise from a chair, walk four meters, turn around, walk back to the chair, and sit down).

Among the major findings during the average three-year follow-up period:

- Measures of lower extremity performance were at least 30% lower than predicted, but handgrip strength was relatively preserved.
- Each 0.1-meter per second slower walking

speed was linked with a 26% higher risk for death over an average three-year follow-up period, and each one-second longer timed up and go was linked with an 8% higher risk for death.

- Walking speed and timed up and go more strongly predicted three-year mortality than kidney function or common blood tests.
- Adding [walking speed](#) to common laboratory tests of [kidney function](#) significantly improved the prediction of three-year mortality.

The results indicate that impaired physical performance of the lower extremities is common in CKD and is strongly linked with premature death. "Our findings suggest that lower extremity [physical performance](#) testing in chronic kidney disease patients may help identify those individuals who are more burdened by their chronic kidney disease," said Dr. Roshanravan.

"Further studies will be necessary to examine the causal factors that are responsible for these findings," wrote Joel Kopple, MD (UCLA and the Los Angeles Biomedical Research Institute) in an accompanying editorial. "Given the current high interest in the problem of frailty in CKD patients, it can be anticipated that much new information," he added.

More information: The article, entitled "Association between Physical Performance and All-Cause Mortality in CKD," will appear online on April 18, 2013, [doi: 10.1681/ASN.2012070702](https://doi.org/10.1681/ASN.2012070702). The editorial, entitled "Physical Performance and All-Cause Mortality in CKD," will appear online on April 18, 2013, [doi: 10.1681/ASN.2013030307](https://doi.org/10.1681/ASN.2013030307)

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