

## Physical Activity and Kidney Function in Sedentary Older Adults

*About 2.5 hours of activity weekly was associated with significantly slower kidney function decline.*

Evidence suggest that higher levels of physical activity are associated with slower decline in kidney function. In this study, researchers retrospectively analyzed data from a previously published randomized trial (*NEJM JW Gen Med* Jul 1 2014 and *JAMA* 2014; 311:2387) to determine whether a physical activity intervention lowered the rate of kidney function decline in community-dwelling, sedentary older adults. The study involved about 1200 people (mean age, 79) with mean estimated glomerular filtration rate (eGFR) of 54 mL/minute/1.73 m<sup>2</sup> at baseline. Participants were randomized to a 2-year, partially supervised, moderate-intensity physical activity and strength intervention (target: 150 minutes/week of walking, exercise sessions, and strengthening) or to health-education workshops (control).

At 2 years, declines in GFR (as estimated by cystatin C measurement) were significantly slower in the intervention group than in the control group (mean difference, 1.0 mL/minute/1.73 m<sup>2</sup>); risk for rapid eGFR decline also was significantly lower in the intervention group (odds ratio, 0.8). Linear associations between step counts and physical activity time and slower decline of kidney function were observed.

### COMMENT

This analysis of randomized trial data shows that a physical activity intervention can slow kidney function decline in community-dwelling, sedentary older adults. Although the mechanisms by which physical activity slows kidney function decline are unclear, the authors note that physical activity is beneficial for limiting kidney disease risk factors such as hypertension, diabetes, and cardiovascular disease. However, it is unclear whether this small eGFR difference will widen over time and result in fewer patients progressing to end-stage renal disease.

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*Shlipak MG et al. Effect of structured, moderate exercise on kidney function decline in sedentary older adults: An ancillary analysis of the LIFE Study randomized clinical trial. JAMA Intern Med 2022 May 2; [e-pub]. (<https://doi.org/10.1001/jamainternmed.2022.1449>)*