

# High cardiorespiratory fitness linked to lower risk for CKD

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High cardiorespiratory fitness (CRF) levels are associated with a reduced

risk for chronic kidney disease (CKD), according to a study published online Jan. 17 in *GeroScience*.

Setor K. Kunutsor, M.D., Ph.D., from the University of Leicester in the United Kingdom, and colleagues quantified the nature and magnitude of the association between CRF and CKD in a cohort of 2,099 men aged 42 to 61 years with normal kidney function at baseline. Data from repeat measurements of CRF taken 11 years after baseline were used to make correction for within-person variability.

During a median follow-up of 25.8 years, 197 CKD events were recorded. The researchers found that for CRF, the age-adjusted regression dilution ratio was 0.59. There was a graded decrease in the risk for CKD with increasing CRF. Following adjustment for several established and emerging [risk factors](#), the hazard ratio for CKD was 0.67 comparing extreme tertiles of CRF.

Following correction for within-person variability, the corresponding adjusted hazard ratio was 0.51. In a [meta-analysis](#) of five cohort studies, including this study, with 32,447 participants and 4,043 cases, the fully adjusted risk ratios for CKD were 0.58 and 0.40 comparing extreme tertiles of baseline and long-term CRF values.

"Using single baseline measurements of CRF to investigate the association between CRF and CKD risk could considerably underestimate the true association," the authors write. "Strategies that can increase or maintain high levels of CRF such as regular aerobic physical activity and exercise training should be encouraged via population wide approaches and across all sectors."

**More information:** Setor K. Kunutsor et al, Baseline and usual cardiorespiratory fitness and the risk of chronic kidney disease: A prospective study and meta-analysis of published observational cohort

studies, *GeroScience* (2023). [DOI: 10.1007/s11357-023-00727-3](https://doi.org/10.1007/s11357-023-00727-3)

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