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### **Impaired Kidney Function and Risks for CV Disease and Death**

*Low-risk women with GFRs <60 had elevated risk for CV-related death but not for adverse CV events, non-CV-related death, or all-cause death.*

Prior research suggests that impaired kidney function is associated with elevated risks for cardiovascular (CV) disease and death from all causes (especially from CV disease). However, these studies involved people at high risk for CV disease, people with CV disease, or people with severe renal impairment. To assess this association in people without these risks, investigators analyzed data for 28,000 female health professionals who were at least 45 and free of CV disease at entry into the Women's Health Study.

Baseline blood samples were used to determine and categorize the women by glomerular filtration rate (GFR): <60 mL/minute/1.73 m<sup>2</sup> (5%), 60–74 (13%), 75–89 (29%), and ≥90 (53%). During a mean follow-up of 12 years, 1199 women had at least one adverse CV event (nonfatal stroke, nonfatal myocardial infarction, coronary revascularization, or CV-related death), and 856 women died (179 from CV disease). After adjustment for multiple variables, no associations were found between GFR category and risk for any adverse CV event, MI, coronary revascularization, stroke, death from all causes, or death from non-CV disease. However, risk for death from CV disease was significantly elevated among women who had GFRs <60 compared with women who had GFRs ≥90 (hazard ratio, 1.68).

**Comment:** In this study of women without CV disease or symptomatic renal disease, those with GFRs <60 mL/minute/1.73 m<sup>2</sup> had elevated risk for CV-related death, but not for CV events, non-CV-related death, or all-cause death during 12 years of follow-up. As the authors note, the results do not exclude an association between more severely impaired kidney function (e.g., GFR <30) and adverse CV disease events or death from all causes. In addition, the study population was female and mostly white, so these results might not apply to men and nonwhite women.

— [Paul S. Mueller, MD, MPH, FACP](#)

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#### **Citation(s):**

Kurth T et al. Kidney function and risk of cardiovascular disease and mortality in women: A prospective cohort study. *BMJ* 2009 Jun 29; 338:b2392. (<http://dx.doi.org/10.1136/bmj.b2392>)