

**CHRONIC KIDNEY DISEASE
THE EFFECT OF AGE
ON CKD OUTCOMES**

The increase in chronic kidney disease (CKD) prevalence with advancing age has led some individuals to question whether loss of kidney function is a normal part of the natural ageing process and whether the definition of CKD should be modified according to age. A new study by the Chronic Kidney Disease Prognosis Consortium, however, has found that CKD markers are independently associated with mortality and progression to end-stage renal disease (ESRD), regardless of age. “We feel that this analysis puts to bed the controversy of kidney disease among older adults and the hypothesis that CKD is so common in old age that it must be normal,” explains lead author Stein Hallan.

To investigate possible effect modifications of age on the association between estimated glomerular filtration rate (eGFR) or albuminuria and clinical risk, Hallan *et al.* performed a meta-analysis of >2 million individuals from 46 cohorts. The researchers found that within each age category, mortality risk was higher at lower eGFRs and at higher albumin-to-creatinine ratios. However, although the relative mortality risk associated with low eGFR decreased with increasing age, absolute mortality risk increased with older age. An eGFR of 45 ml/min/1.73 m² (versus 80 ml/min/1.73 m²) was associated with 9.0, 12.2, 13.3, and 27.2 extra deaths per 1,000 person-years in individuals aged 18–54 years, 55–64 years, 65–74 years, and ≥75 years, respectively. Differences in absolute mortality risk with increasing albuminuria were also higher in older age categories. By contrast, the absolute and relative risk of ESRD was similar in all age groups. As Hallan explains, “while some variation in the management of CKD should be considered by age on the basis of costs and benefits with respect to risk of mortality and kidney failure needing dialysis or transplantation, our data support a common definition and staging of CKD for all age groups.”

Hallan suggests that future research should focus on the range of risks at each age and on developing strategies to help patients minimize unnecessary exposure to harmful events, conditions and medications. “We should pursue strategies to best treat kidney disease across the full age spectrum,” he concludes.

Susan J. Allison

Original article Hallan, S. I. *et al.* Age and association of kidney measures with mortality and end-stage renal disease. *JAMA* doi:10.1001/jama.2012.16817