

Cystatin C-based equation accurate for estimating glomerular filtration rate

January 26 2023, by Elana Gotkine



A cystatin C (cys)-based European Kidney Function Consortium

(EKFC) equation has similar accuracy to the creatinine (cr)-based equation for estimating glomerular filtration rate (GFR), according to a study published in the Jan. 26 issue of the *New England Journal of Medicine*.

Hans Pottel, Ph.D., from KU Leuven Campus Kulak Kortrijk in Belgium, and colleagues used data from patients in Sweden to estimate the rescaling factor for cystatin C level in adults. Rescaled serum creatinine in the EKFC eGFRcr [equation](#) was replaced with rescaled cystatin C, and the resulting EKFC eGFRcys equation was validated in cohorts of White and Black patients in Europe, the United States, and Africa.

The rescaling factor for cystatin C was estimated at 0.83 for men and women younger than 50 years of age and $0.83 + 0.005 \times (\text{age} - 50)$ for those 50 years of age or older on the basis of data from 227,643 patients in Sweden.

The researchers found that the EKFC eGFRcys equation was unbiased, with accuracy similar to that of the EKFC eGFRcr equation in both White and Black patients, and it was found to be more accurate than the Chronic Kidney Disease Epidemiology Collaboration eGFRcys equation recommended by the Kidney Disease: Improving Global Outcomes guidelines. The accuracy of eGFR was further improved by the arithmetic mean of EKFC eGFRcr and EKFC eGFRcys compared with estimates from either biomarker equation alone.

"Improvement in estimation of the GFR was observed only in the combined EKFC eGFRcr-cys equation," the authors write.

More information: Hans Pottel et al, Cystatin C–Based Equation to Estimate GFR without the Inclusion of Race and Sex, *New England Journal of Medicine* (2023). [DOI: 10.1056/NEJMoa2203769](https://doi.org/10.1056/NEJMoa2203769)

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Citation: Cystatin C-based equation accurate for estimating glomerular filtration rate (2023, January 26) retrieved 26 April 2024 from <https://medicalxpress.com/news/2023-01-cystatin-c-based-equation-accurate-glomerular.html>

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