



Change in eGFR Calculation to 2021 CKD-EPI

Since the implementation of the eGFR (estimated Glomerular Filtration Rate) calculation in 2012 Laboratory Alliance of Central New York has used the MDRD (Modification of Diet in Renal Disease) calculation, one factor of which is race (African American). Recently, clinicians and laboratories have begun to favor the 2021 CKD-EPI (Chronic Kidney Disease Epidemiology Collaboration) calculation which eliminates the adjustment factor for patient race.

Effective June 27, 2023 Laboratory Alliance will implement the eGFR 2021 CKD-EPI calculation for the chemistry panels and tests listed below.

Affected tests:

- Basic Metabolic Panel
- Comprehensive Metabolic Panel
- Renal Function Panel
- Creatinine, Serum

Note that the new calculation will **not** be applied retroactively to previously reported results. Use of the new calculation will decrease the estimated glomerular filtration rate (eGFR) previously factored for African American race and, thus, may cause some patients to be newly identified as having renal dysfunction.

MDRD Equation	$175 \times (S_{cr})^{-1.154} \times (Age)^{-0.203} \times (0.742 \text{ if female}) \times (1.212 \text{ if African American})$ Two eGFR values are reported; the second is factored and commented as "African American".
2021 CKD-EPI Equation	$142 \times \min(S_{cr}/\kappa, 1)^\alpha \times \max(S_{cr}/\kappa, 1)^{-1.200} \times 0.9938^{Age} \times 1.012 [\text{if female}]$ S_{cr} = standardized serum creatinine in mg/dL κ = 0.7 (females) or 0.9 (males) α = -0.241 (female) or -0.302 (male) $\min(S_{cr}/\kappa, 1)$ is the minimum of S_{cr}/κ or 1.0 $\max(S_{cr}/\kappa, 1)$ is the maximum of S_{cr}/κ or 1.0 Age (years)

eGFR will not calculate if the patient is under age 18 or if the patient sex is not specified as male or female.

The eGFR reference range will remain $\geq 60 \text{ mL/min/1.73m}^2$.

References:

1. Darshali A. Vyas, M.D et al. Hidden in Plain Sight — Reconsidering the Use of Race Correction in Clinical Algorithms. N Engl J Med 2020; 383:874-882. DOI: 10.1056/NEJMms2004740.
2. Lesley A. Inker, M.D. et al. New Creatinine- and Cystatin C–Based Equations to Estimate GFR without Race. N Engl J Med 2021; 385:1737-1749. DOI: 10.1056/NEJMoa2102953.
3. National Kidney Foundation and American Society of Nephrology Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Diseases.

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