a trchealthcare brand
Pharmacist's Letter
Hospital

Move to the CKD-EPIcr Creatinine Equation for Kidney Dosing

Top Takeaways

- *Generally move toward the 2021 CKD-EPIcr equation to estimate kidney function for dosing, since it's more accurate and consistent than the Cockcroft-Gault equation.*
- *Ensure CKD-EPIcr results are adjusted for body surface area to get "mL/min" units before using them for medication dosing.*
- *Know that CKD-EPIcr wasn't validated in acute kidney injury, unstable kidney function, or patients on dialysis.*

New guidance emphasizes **moving away from the Cockcroft-Gault equation to estimate kidney function for drug dosing in adults.**

The National Kidney Foundation and other organizations advocate using the 2021 CKD-EPI creatinine (CKD-EPIcr) equation instead...it's more accurate at calculating an estimated glomerular filtration rate (eGFR).

Unlike Cockcroft-Gault, CKD-EPIcr was validated in a large, diverse population with stable kidney function using standardized creatinine labs.

Plus, Cockcroft-Gault practices are inconsistent and lack strong evidence...especially for choosing body weights to use (actual, ideal, etc) and rounding up creatinine labs to 1 mg/dL in elderly patients.

Before incorporating CKD-EPIcr into practice, work with specialists (ID, critical care, oncology, etc) and colleagues in pharmacy admin, lab, and IT to help create policies around using it in kidney dosing protocols, EHR lab flowsheets, dose warnings, etc.

For example, clarify that CKD-EPI isn't validated in acute kidney injury or unstable kidney function...and should never be used for patients on dialysis. For intermittent dialysis, assume eGFR is <10 mL/min instead.

If your lab can't report eGFR using CKD-EPIcr, consider bookmarking an online calculator instead. Avoid trying to do the calculations by hand...CKD-EPIcr is very complex.

When using CKD-EPIcr calculators, avoid rounding creatinine up to 1 mg/dL. Similarly, only use the patient's actual height and weight.

Then ensure the calculated eGFR is adjusted based on your patient's body surface area ($eGFR_{BSAadj}$) before using it to dose medications.

Keep in mind, some online calculators can do this adjustment for you if you provide a height and weight. Look for "mL/min" units (not the standardized "mL/min/1.73 m^2" eGFR) to tell if you have the $eGFR_{BSAadj}$.

To adjust for BSA by hand, multiply the standardized eGFR result (in mL/min/1.73 m^2) by the BSA (m^2) divided by 1.73. Use the example below where the standardized eGFR is 35 mL/min/1.73 m^2 and BSA is 2.1 m^2:

$$eGFR_{BSAadj} = \text{standardized eGFR} \left(\text{in mL/min1.73 } m^2\right)\left(\text{BSA in } m^2 1.73\right)$$

$$eGFR_{BSAadj} = 35 \text{ mLmin1.73 } m^2 \left(2.1 \ m^2 1.73\right) = 35\ (1.21) = 42 \text{ mL/min}$$

Feel comfortable routinely using CKD-EPIcr results, even if dosing adjustments in drug labels or references are

Cite this document as follows: Article, Move to the CKD-EPIcr Creatinine Equation for Kidney Dosing<br class="t-last-br" />, Hospital Pharmacist's Letter, October 2026

The content of this article is provided for educational and informational purposes only, and is not a substitute for the advice, opinion or diagnosis of a trained medical professional. If your organization is interested in an enterprise subscription, email sales@trchealthcare.com.

© 2026 Therapeutic Research Center (TRC). TRC and Hospital Pharmacist's Letter and the associated logo(s) are trademarks of Therapeutic Research Center. All Rights Reserved.

based on Cockcroft-Gault. After all, kidney dosing info is to be used as a guide...not hard-and-fast rules, since all equations are only estimates.

Continue to monitor patients for clinical worsening or drug toxicity after any dosing changes...and check drug levels when possible.

Get our *Medications and Kidney Function* FAQ for tips on calculating BSA, creatinine's limitations, using cystatin C as a biomarker, and more.

And watch our on-demand CE webinar, *Estimating Kidney Function and Implications for Drug Dosing*, to hear experts discuss best practices.

Key References:

-National Kidney Foundation. U.S. Pharmacy Organizations Endorse Transition from Cockcroft-Gault Estimated Creatinine Clearance to the 2021 CKD-EPI Equation for Estimated Glomerular Filtration Rate to Improve Medication-related Decision-making in Adults Across Healthcare Settings. June 1, 2026. https://www.kidney.org/sites/default/files/2026-05/pharmacy_engagement_consensus_statement.pdf (Accessed June 29, 2026).
-National Kidney Foundation. Race-agnostic eGFR for Medication-related Decisions in Adults. https://www.kidney.org/professionals/ckdintercept/race-agnostic-egfr-medication-related-decisions-adults (Accessed June 29, 2026).
-Bzowyckyj A, Webb A; NKF. Frequently Asked Questions. 2026. https://www.kidney.org/professionals/ckdintercept/race-agnostic-egfr-medication-related-decisions/faq (Accessed August 14, 2026).
-St Peter WL, Bzowyckyj AS, Anderson-Haag T, et al. Moving forward from Cockcroft-Gault creatinine clearance to race-free estimated glomerular filtration rate to improve medication-related decision-making in adults across healthcare settings: A consensus of the National Kidney Foundation Workgroup for Implementation of Race-Free eGFR-Based Medication-Related Decisions. Am J Health Syst Pharm. 2025 Jun 11;82(12):644-659.

Hospital Pharmacist's Letter. October 2026, No. 421033

Cite this document as follows: Article, Move to the CKD-EPIcr Creatinine Equation for Kidney Dosing<br class="t-last-br" />, Hospital Pharmacist's Letter, October 2026

The content of this article is provided for educational and informational purposes only, and is not a substitute for the advice, opinion or diagnosis of a trained medical professional. If your organization is interested in an enterprise subscription, email sales@trchealthcare.com.

© 2026 Therapeutic Research Center (TRC). TRC and Hospital Pharmacist's Letter and the associated logo(s) are trademarks of Therapeutic Research Center. All Rights Reserved.