

**Harvard Medical School Department of
Continuing Education and the Renal Division
of Brigham and Women's Hospital**



Nephrology Rounds
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Clinical Implications of Glomerular Filtration Rate (GFR) Estimating Equations

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Objectives

This issue of *Nephrology Rounds* will help readers to:

- review the physiology of GFR and serum creatinine as an estimate of GFR
- describe the strengths and limitations of GFR estimating equations
- understand how current estimating equations can be applied in clinical practice

Questions:

1. Chronic kidney disease (CKD) is defined as a level of glomerular filtration rate (GFR) < 60 mL/min/1.73 m² and evidence of kidney damage.
True False
2. Patients with CKD are at an increased risk for cardiovascular disease.
True False
3. GFR varies according to age, sex, and body size.
True False
4. Urinary clearance of inulin using continuous intravenous infusion and bladder catheterization is considered the gold standard for measured GFR.
True False
5. Twenty-four hour urine collections for creatinine clearance are less accurate than estimated GFR using the Modification of Diet in Renal Disease (MDRD) Study equation.
True False
6. The Cockcroft-Gault equation overestimates the creatinine clearance in patients who are obese or edematous.
True False

7. Creatinine calibration is only a concern with the use of the MDRD Study equation.
True False
8. The MDRD Study equation and Cockcroft-Gault formula estimate GFR.
True False
9. The National Kidney Disease Education Program (NKDEP) recommends reporting exact values of GFR estimates up to levels of 60 mL/min/1.73 m²
True False
10. The use of GFR estimating equations without calibrating the serum creatinine is acceptable only if reporting specific values <60 mL/min/1.73 m²
True False

To receive AMA category 1 credit, you must correctly answer 60% of the test questions.

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