

Drug Prescribing in Renal Failure

Renal function should be considered when choosing medications and dosages.

Decreasing renal function is a common and frequently unrecognized condition in the elderly. Serum creatinine, unfortunately, underestimates renal function in cases of advanced age and decreased muscle mass.

A better estimation of renal function is the calculated creatinine clearance. The Cockcroft and Gault formula is one method commonly recommended (see below). Once impaired renal function is identified, family physicians should adjust medication dosages appropriately, monitor drug levels and avoid nephro-toxic drugs.

Drugs commonly used in family practice that may need dose adjustments in impaired renal function:

- Acetaminophen
- Ramipril
- Metformin
- Lithium
- Aminoglycosides
- Morphine
- Venlafaxine

Cockcroft/Gault Formula For males:
$$\text{CrCl}(\text{ml}/\text{min}) = \frac{(140 - \text{age}) \times \text{weight}(\text{kg}) \times 1.2}{\text{Cr}(\text{mmol}/\text{L})}$$

For females, multiply by 0.85

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