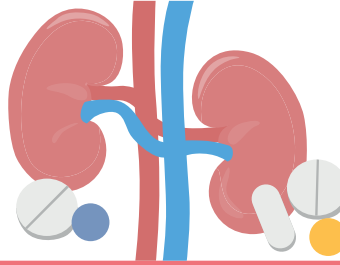


# MEDICATION RISKS: NEPHROTOXICITY



## Definition

Nephrotoxicity refers to the rapid deterioration in kidney function due to the toxic effect of medications and/or chemicals.



## Client-related risk factors

- > 60 years old
- Heart failure, renal insufficiency, DM, or sepsis
- Dehydration
- Female sex

## Drug-Related Risk Factors

### Antibiotics:

- Gentamicin
- Amphotericin B

### Anti-hypertensives:

ACE inhibitors

### Pain:

NSAIDs

Radiocontrast media  
(especially w/ metformin)

### Lithium salts:

- Rifampin
- INH

### Chemotherapy:

Cisplatin

Iodine based contrast media slows down how fast the kidneys remove metformin from the body. A buildup can lead to lactic acidosis.

Providers should:

- Ensure client is euvolemic prior to test
- Discontinue metformin at the time of contrast administration
- Hold metformin for 48 hours after
- Consider alternative glucose control methods, if needed

## Blood urea nitrogen (BUN)

Normal:

- 7–20 mg/dL (2.5–7.1 mmol/L)



Levels elevated w/ renal injury

## Values to Monitor



## Creatinine

Normal:

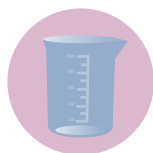
- Women: 0.6–1.1 mg/dL
- Men: 0.7–1.3 mg/dL



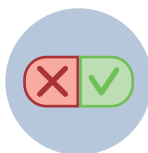
Levels elevated w/ renal injury

## Prevention

Adjust medication dosages using the Cockcroft-Gault formula (in adults) or Schwartz formula (in children).



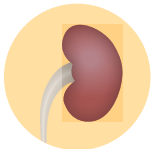
Correct risk factors for nephrotoxicity before initiation of drug therapy.



Ensure adequate hydration before and during therapy with potential nephrotoxin.



Assess baseline renal function and consider client's renal function when starting a new drug.



Avoid nephrotoxic combinations. Use equally effective non-nephrotoxic drugs whenever possible.



## NOTES

