

Acute renal failure: Rx

Acute kidney injury (AKI) is an abrupt decline in kidney function that results in an elevation of serum blood urea nitrogen (BUN), creatinine, and other metabolic waste products that are normally excreted by the kidney. Potentially life-threatening complications of AKI include volume overload, hyperkalemia, acidosis, and uremia

Rx:

1. Assess volume status – If hypovolemic, replace with IV fluids. If hypervolemic – diuretics, dialysis. Diuretics should not be used for prolonged therapy in place of dialysis
2. ↑K - treatment of hyperkalemia includes both medical therapy and dialysis
3. Hypocalcemia (related to hyperphosphatemia) f/u closely, replace as required
4. Hyperphosphatemia - dietary phosphate binders in moderately to severely elevated serum phosphate concentrations (i.e. >6 mg/dL)
5. Metabolic acidosis – dialysis preferred over NaHCO₃
6. Watch for bleeding (↓platelet function)
7. Treat underlying cause of failure (e.g. hypovolemia, sepsis)

Pearl: Among patients with AKI who are not volume overloaded and have no other indication for acute dialysis, bicarbonate may be used in the setting of a non-anion gap acidosis related to diarrhea or in patients with a severe organic acidosis while awaiting dialysis

ARF:

What goes up	What goes down
K, Mg, PO ₄ , BUN, Cl, Creat	Na, Ca, Hgb, Platelet function

Question:

A 75 year-old male presents BUN of 100 and creatinine of 10. Indications for dialysis include:

- a. Serum K of 5.1
- b. Elevated CK
- c. Acute mental changes
- d. pH of 7.2

Answer: C - Potentially life-threatening complications of AKI include volume overload, hyperkalemia, acidosis, and uremia and they require dialysis ASAP. A serum K of 5.1 and a pH of 7.2 are not necessary indications for acute dialysis. Uremia is...