

HYPERKALEMIA

Management of Acute Severe Hyperkalemia $K^+ > 6.5$ mmol/L \pm ECG Changes

Remove Potassium (K^+) Intake

Stop potassium-containing fluids +/- medications
Continuous Electrocardiogram (ECG) monitoring *



ECG
Change

Cardiac Membrane Stabilization

Calcium GLUCONATE: 0.5 mL/kg/dose (50 mg/kg/dose) IV push over 10 min
Max 3000 mg/dose. May repeat dose in 5 minutes if ECG changes persist

OR **Calcium CHLORIDE**: 0.2 mL/kg/dose IV (20 mg/kg/dose) over 5 to 10 min
Maximum: 1 g/dose = 10 mL of 10% solution. Need to dilute if peripheral administration

Redistribution Strategies (Shifting Extracellular K^+ into Cells) Consider simultaneous use + Call for help

<p>Salbutamol</p> <p>5 mg Salbutamol by continuous nebulization or MDI with spacer, continued until condition stabilizes and other therapies initiated</p>	<p>Glucose & Insulin</p> <p>Regular Insulin 0.1 unit/kg (max 10 units/dose) IV over 30 min (given with dextrose 0.5 g/kg (5 mL/kg of D10) max 25 g/dose of dextrose) followed by infusion of 0.1 unit/kg/hr Insulin (50 units insulin in 50ml 0.9% NaCl)</p>	<p>Furosemide</p> <p>1 mg/kg (suggested in hypervolemic or euvolemic patients able to produce urine)</p>	<p>Sodium Bicarbonate</p> <p>IF pH < 7.2 1 mL/kg over 30 mins (repeat if pH < 7.2)</p> <p>*No benefit reported when used for hyperkalemia in non-acidotic patients</p>	<p>REFRACTORY HYPERKALEMIA + ECG Change or Untreated Cause</p> <p>Removal of K^+ via CVVH</p> <p>Consult Nephrology</p>
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Check Glucose Level Q30 Min if administering Glucose & Insulin Infusions

Hyperkalemia ECG Features:

- o Tall peaked T waves
- o Flattened/ Absent P waves
- o Sine wave
- o Prolonged PR Interval
- o Widened QRS Complex
- o Bradycardia/ VTach/Vfib

Contraindicated Fluids/ Medications:

- o K^+ Supplements
- o K^+ Sparing Diuretics
- o ACE – Inhibitors
- o NSAIDs
- o Succinylcholine



Causes :

- o **Trans-Cellular Shift**: e.g. Acidemia
- o **Increased Intake**: e.g. K^+ supplements/ K^+ containing fluids
- o **Cell Damage**: e.g. Malignant hyperthermia/ rhabdomyolysis/ tumor lysis syndrome/burns/ hemolysis (Likely to need CVVH in rapid cell breakdown states)
- o **Reduced Renal Excretion**: e.g. AKI/hypoaldosteronism/ Addison's/CAH/Pseudo- hypoaldosteronism (e.g. after UTI)
- o **Spurious**: e.g. Hemolysed sample

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