

Classification

Electrolyte / Alkalinizing Agent

Prehospital Indications

Cardiac Arrest – Non-Traumatic: suspected hyperkalemia, patients with renal failure
Cardiac Dysrhythmia: suspected hyperkalemia causing bradycardia
Overdose / Poisoning / Ingestion: suspected tricyclic overdose with ECG changes
Traumatic Injury: suspected hyperkalemia in the setting of crush injury or potential for development of crush syndrome (administer prior to release of crushed tissue)

Other Common Indications

None

Adult Dose

50mEq (50mL) slow IV/IO push

For crush injury repeat x1 for persistent ECG abnormalities

Pediatric Dose

1mEq/kg (1mEq/mL) slow IV push, dose per *MCG 1309*

For crush injury, repeat x1 for persistent ECG abnormalities

Mechanism of Action

Increases blood and urinary pH by releasing a bicarbonate ion, which in turn neutralizes hydrogen ion concentration.

Pharmacokinetics

Onset is < 15 min (observed < 5 for tricyclic overdose); clinical effect in < 15 min; duration is 1-2 hr

Contraindications

Evidence of pulmonary edema
Hypernatremia or hypocalcemia

Interactions

Precipitates to form calcium carbonate (chalk) when used with calcium chloride or calcium gluconate.
Administer calcium chloride and sodium bicarbonate separately.
Can reduce potency of epinephrine, flush line after administration.

Adverse Effects

Extracellular alkalosis
Tissue damage if IV infiltrates
Pulmonary edema

Prehospital Considerations

- Multiple doses may be needed in TCA overdose when indicated