

APPENDIX A: INITIAL MEDICAL MANAGEMENT FOR HYPERKALEMIA

Drug/Treatment	Dose & Route of Administration	Mechanism of Action	Time to Onset	Duration of Effect	Caution/Contraindication	Other Comments
Stabilize Cardiac Membranes						
Calcium gluconate	1000mg=one 10ml “amp” of 10% (100mg/mL) solution; infused IV over 2-3 mins	Stabilizes myocyte membrane electrical activity	Immediate	30-60 mins	Caution if pre-existing hypercalcemia	Can be administered via peripheral IV; repeat in 5 mins for persistent EKG changes
Calcium chloride	1000mg=one 10ml “amp” of 10% (100mg/mL) solution; infused IV over 2-3 mins	Stabilizes myocyte membrane electrical activity	Immediate	30-60 mins	Administration via central line preferred (can damage small vessels, cause tissue necrosis); caution if pre-existing hypercalcemia	Repeat in 5 mins for persistent EKG changes
Shift Potassium Intracellularly						
Insulin, regular	10 units by IV bolus; if blood glucose <250 mg/dL give 50 mL 50% dextrose immediately after insulin	Shifts potassium intracellularly by way of Na-K ATPase pump	10-20 mins	4-6 hr	Caution if hypoglycemia	Check blood glucose within one hour of administration
Albuterol	10 mg nebulized, over 10 mins	Shifts potassium intracellularly by way of Na-K ATPase pump	20-30 mins	1-2 hr	Can cause tachycardia	Has additive effect with insulin tx
Sodium Bicarbonate	150 meq in 1L of D5W over 2-4 hr	Shifts potassium intracellularly by increasing blood pH	~4 hr	Variable	Can decrease ionized calcium and destabilize cardiac membranes; caution in setting of volume overload	Minimally effective and should not be used unless pH<7.2
Remove Potassium						
Sodium polystyrene sulfonate (Kayexalate®)	30 grams PO	Exchanges sodium for potassium in the large intestine	>2 hours	Variable	Case reports of colonic necrosis; avoid in setting of bowel obstruction or following bowel injury or surgery; may be of limited utility in setting of severe hyperkalemia	Can repeat every 4-6 hours; consider initial dose of 45-60 grams in body weight >80 kg
Furosemide	40mg IV	Impairs renal potassium reabsorption	5 mins	2 hours	Avoid if sulfa allergy; caution in volume depletion, hypotension	May require larger doses (up to 200mg) or be ineffective in setting of acute kidney injury