

Southern Illinois Regional EMS System

JJ-6 CALCIUM CHLORIDE

Class:

- Electrolyte

Description:

- Calcium is an essential component for functional integrity of the nervous and muscular system, for normal cardiac contractility, and the coagulation of blood. Calcium chloride contains 27.2% elemental calcium. Calcium chloride is a hypertonic solution and should be administered only IV (slowly, not exceeding 1ml/minute).

Onset and Duration:

- Onset: 5 – 15 minutes.
- Duration: Dose dependent:
- Effects may persist for 4 hours after IV administration.

Indications:

- Hyperkalemia:
- Except when associated with digitalis toxicity.
- Hypocalcemia:
- e.g., after multiple blood transfusions.
- Calcium channel blocker toxicity.
- Hypermagnesemia.
- To prevent hypotensive effects of calcium channel blocking agents (IV Verapamil and diltiazem).

Contraindications:

- Ventricular fibrillation during cardiac resuscitation.
- In patients with digitalis toxicity.
- Hypercalcemia.
- Renal or cardiac disease.

Adverse Reactions:

- Bradycardia.
- Hypotension.
- Metallic taste.
- Severe local necrosis and sloughing following intramuscular use or IV infiltration.

Drug Interactions:

- Calcium may worsen dysrhythmias caused by digitalis.
- Calcium may antagonize the peripheral vasodilatory effects of calcium channel blockers.

How Supplied:

- 10% solution in 10ml (100mg/ml) ampules, vials, and prefilled syringes.

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JJ-5 CALCIUM CHLORIDE (continued)

Dosage and Administration:

- Hyperkalemia, Hypocalcemia, Hypermagnesemia, and Calcium Channel Blocker Overdose:
 - Adult:
 - 8 – 16mg/kg of 10% solution slow IV/IO:
 - May be repeated in 10 minutes if needed.
 - Pediatric:
 - 20mg/kg of 10% solution slow IV/IO push:
 - May be repeated in 10 minutes if needed.

Special Considerations:

- Pregnancy Category C.
- Calcium may produce vasospasm in coronary and cerebral arteries.
- Do not use routinely in cardiac arrest.
- Hypertension and bradycardia may occur with rapid administration.
- Monitor heart rate during administration.