



**GENERIC NAME: CALCIUM CHLORIDE**

**BRAND NAME:** Calcium Chloride

**CLASS:** Electrolyte

**Mechanism of Action:**

Increases extracellular and intracellular calcium levels  
Stimulates release of catecholamines  
Increases cardiac contractile state (positive inotropic effect)  
May enhance ventricular automaticity

Inhibits the effects of adenosine on mast cells  
**Indications and Field Use:**

Acute hypocalcemia  
Calcium channel blocker OD  
Acute hyperkalemia (known or suspected)  
Hypermagnesemia (Magnesium OD)  
Pre-treatment for IV verapamil administration

**Contraindications:**

Hypercalcemia  
Concurrent digoxin therapy (relative)

**Adverse Reactions:**

Brady-asystolic arrest Severe tissue necrosis if solution extravasates Use cautiously in patients on digitalis; may cause serious arrhythmias skeletal muscle tingling sensation

## **NOTES ON ADMINISTRATION**

Incompatibilities/Drug Interactions: All drugs -- flush line before and after administration

### **Adult Dosage:**

**Hypocalcemia, calcium channel blocker OD, hyperkalemia and hypermagnesemia:**

5-10 ml (0.5-1 Gm) of 10% calcium chloride. May repeat in 10-20 minutes. **Pre-treatment for IV verapamil administration:** 3 ml of 10% calcium chloride. May be repeated once.

### **Pediatric Dosage:**

**Hypocalcemia, calcium channel blocker OD hyperkalemia and hypermagnesemia:**

0.2 - 0.25 ml/kg of a 10% solution infused slowly. Should not be repeated without documented calcium deficiency.

### **Routes of Administration:**

IV bolus

### **Onset of Action:**

Seconds

### **Peak Effects:**

3 - 5 minutes

## **Duration of Action:**

15-30 minutes

## **Dosage Forms/Packaging:**

1 Gm/10 ml prefilled syringes

## **Arizona Drug Box Supply:**

PARAMEDIC: 1 gm

## **Special Notes:**

- > For pediatrics, calcium chloride may be diluted with 1-2 ml of NS IV fluid per ml calcium chloride.
- > Concurrent administration of sodium bicarbonate and calcium chloride will produce a precipitate, calcium carbonate (chalk).
- > Studies have shown no benefit from calcium administration in asystole or PEA. There is increasing evidence that calcium increases damage to cells that have been injured and worsens the neurological outcome.
- > Pediatric patients should not receive IV calcium channel blockers such as verapamil; therefore there is no dose for pre-treatment.
- > Use of calcium chloride in treatment of hyperkalemia is a part of a combination drug therapy (See profiles for dextrose and sodium bicarbonate). Insulin may be given upon arrival to ED.
- > Calcium chloride is not recommended in patients with suspected digitalis toxicity. Page 2 of 2 Revised

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