

## F. Calcium Chloride

- I. Classification
  - Electrolyte
- II. Actions
  - Actively competes with potassium at cardiac and neuromuscular receptor sites
  - Restores myocardial conduction in presence of hyperkalemia
  - Increases myocardial contractility (inotropy)
- III. Indications
  - Cardiac arrest associated with hyperkalemia (elevated potassium)
  - Calcium channel blocker overdose
  - Bradycardia due to calcium channel blocker overdose or hyperkalemia (i.e. missed dialysis).
- IV. Contraindications
  - Cardiac arrest not associated with above indications
  - Should be avoided in patients on digoxin.
- V. Adverse Effects
  - Not significant in above indications
- VI. Administration
  - A. Adult
    - 1 gm (1000 mg) slow IV/IO over 60 seconds.
  - B. Pediatric [by on-line MD order only]
    - 20 mg/kg slow IV/IO over 60 seconds (maximum single dose 1000 mg).
- VII. Onset
  - Immediately
- VIII. Duration
  - 30 minutes - 2 hours
- IX. Precautions
  - Calcium precipitates with sodium bicarbonate forming calcium carbonate (chalk) and is incompatible with other drugs. Flush IV tubing before and after administration.
  - Causes tissue necrosis if infused into the interstitial space. Verify IV patency prior to administration.
- X. Note
  - Hyperkalemia is common in dialysis patients due to potassium retention and can occur with an overdose of potassium supplements.
  - Common names of calcium channel blocking agents: Adalat® or Procardia® (nifedipine), Calan® or Isoptin® (verapamil) and Cardizem® (diltiazem).