

Calcium Chloride

Indications: Calcium channel or beta blocker overdose, hyperkalemia, hypocalcemia, hypermagnesemia, Hydrofluoric acid burn, Blood product transfusion; Cardiac arrest with presumed hyperkalemia or calcium channel blocker overdose; Pulseless VF/VT.

Contraindications: None in the emergency setting

Concentration: 100 mg/mL

ADULT DOSING

Indication	Dose	Route & Rate	Note
Cardiac Arrest with hyperkalemia or calcium channel blocker OD	1 g (1,000 mg) 10 mL	IV/IO Push	
VF / pVT			
Blood product administration		Slow IV/IO Push over 3 minutes	Through a dedicated medication line.
Hydrofluoric acid burn			
Calcium channel or beta blocker OD			
Magnesium OD			OLMC Required

ADULT DOSING

PEDIATRIC DOSING

Indication	Dose	Route & Rate	Note
Blood product administration	10 mg/kg	Slow IV/IO Push Over 3 minutes	Through a dedicated medication line.
Calcium channel or beta blocker OD	20 mg/kg	IV/IO infusion over 10 minutes	OLMC Required

PEDIATRIC DOSING

Pediatric Dosing Calcium Chloride

3 kgs	4kgs	5 kgs	6-7 kgs	8-9 kgs	10-11 kgs	12-14 kgs	15-18 kgs	19-23 kgs	24-29 kgs	30-36 kgs
6.6 lbs	8.8 lbs	11 lbs	13-15 lbs	17-20 lbs	22-24 lbs	26-30 lbs	33-40 lbs	42-50 lbs	53-64 lbs	66-80 lbs
in18.25-20.25	in20.25-21.5	in21.5-23.25	in23.25-26.25	in26.25-29.25	in29.25-33	in33-37.5	in37.5-42.5	in42.5-47.75	in47.75-51.25	in51.25-56.25
Blood Product Administration (10 mg/kg) Slow IV or IO Push Over 3 Minutes										
0.3 mL	0.4 mL	0.5 mL	0.7 mL	0.9 mL	1 mL	1.3 mL	1.7 mL	2.1 mL	2.7 mL	3.3 mL
<p style="text-align: center; color: red;">Calcium Channel or Beta Blocker OD (20 mg/kg) IV/IO Infusion Over 10 Minutes – OLMC Required</p> <p style="text-align: center;">IV/IO infusion over 10 minutes. Place mL dose of medication in 50 mL NS in an IV burette/60 gtts set. Infuse @ 300 gtts/min. Concentration = 10mg/1ml</p>										
0.6 mL	0.8 mL	1 mL	1.3 mL	1.7 mL	2.1 mL	2.6 mL	3.3 mL	4.2 mL	5.3 mL	6.6 mL

Adverse effects	Arrhythmias including bradycardia or cardiac arrest, Syncope, N/V, Hypotension, Necrosis with extravasation. Calcium chloride will precipitate when used in conjunction with sodium bicarbonate, Toxicity with digitalis, and may antagonize the effects of calcium channel blockers
Class	Inotropic Agent (electrolyte)
Mechanism of Action	Replaces elemental calcium, which is essential for regulating excitation threshold of nerves and muscles. Calcium is also essential for blood clotting mechanisms, maintenance of renal function, and bone tissues. Calcium increases myocardial contractile force and ventricular automaticity. Additionally, serves as an antidote for magnesium sulfate and calcium channel blocker toxicity.
Onset of Action	Immediate
Peak Effect	Immediate
Duration of Action	Varies