Calcium chloride Intravenous for Adults

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- Calcium chloride is **second-line** when the gluconate salt is unavailable [ref 1]
- Calcium chloride minijets MAY BE USED in the resus situation
- **Very irritant** solution- give slowly, and stop if extravasation occurs
- Calcium chloride should **NEVER** be given by IM or subcutaneous routes, as **severe necrosis and sloughing may occur**
- Do **NOT** administer through same line as solutions containing **phosphate, bicarbonate or sulphates**
- Do **NOT CONFUSE WITH CALCIUM GLUCONATE**
- There is a risk of **arrhythmias** if the drug is given too quickly. Also, nausea, vomiting, hot flushes, sweating, hypotension, tingling, chalky taste and vasomotor collapse may occur if the drug is given too quickly [ref 2]

Available preparations

Drug	Presentation	Concentration (mmol)	Concentration (%= g/100ml)	Content in grams
Calcium chloride	**minijet**	6.8 mmol in 10ml	10%	1g in 10ml
	ampoule	5mmol in 5ml	14.7%	0.735g in 5ml
	ampoule	10mmol in 10ml	14.7%	1.47g in 10ml

Reconstitution

Already in solution

Draw up using a 5 micron filter needle (ampoules)

Infusion fluids

Sodium chloride 0.9% [ref 2]

Methods of intravenous administration

Slow intravenous injection (in resus situations)

- **Minijet:** as per resuscitation guidelines
- **Ampoules:** administer slowly over at least 3 minutes [ref 2]
- See under 'Important information' re rate of administration

Intermittent intravenous infusion(administer using an electronically controlled infusion pump)

- Dilute with at least four times its own volume with infusion fluid [ref 2]
- Administer over one hour via a large vein [ref 1]

- Rate may be increased if necessary to a maximum rate of 1mmol per minute [ref 2]

Dose in adults

Emergency situations

- As per resus guidelines

Hypocalcaemia

- Calcium gluconate salt preferred - see separate monograph
- The dose is determined by the requirements of the patient
- Suggest initial dose of Calcium chloride 10mmol (10ml of **ampoule** solution)
- Repeat every day if needed

Hypocalcaemic tetany/severe hypocalcaemia

- See calcium gluconate monograph

Monitoring

- Monitor serum calcium, blood pressure
- The infusion site must be monitored to ensure **extravasation injury** has not occurred
- There is a risk of arrythmias if the drug is given too quickly [ref 2]

Further information

- Conversion: 1mmol is the same as 2mEq
- Calcium chloride 1g = 270mg elemental calcium = 13.6mEq = 6.8mmol [ref 3]

Storage

Store at room temperature

References

SPC Minijet May 2019

1. Uptodate- accessed online 09/05/2023

2. Injectable medicines administration Medusa downloaded 29/03/2023

3: Druginformation.com Conversion calculator

Therapeutic classification

Electrolyte