



NEONATAL Medication Monograph

CALCIUM GLUCONATE 10%

This document should be read in conjunction with this [DISCLAIMER](#)





Restricted: Requires Neonatologist review within 24 hours of initiation

 **HIGH RISK Medication**

Presentation	Vial: 2.2 mmol calcium in 10mL = 0.22 mmol/mL
Description	Electrolyte Replacement
Indications	<ul style="list-style-type: none">• Hypocalcaemia; including seizures• Ionised calcium less than 0.65 mmol/L (<0.75 mmol/L if symptomatic)• Hyperkalaemia
Contraindications	Contraindicated in patients with ventricular fibrillation or hypercalcaemia
Dose	<p><u>Note:</u></p> <p>Prescribe calcium salt in full (i.e. calcium gluconate) and strength (i.e. 10%). Dose should be expressed as 'mmol'</p> <p><u>IV:</u></p> <p>Urgent correction: 0.22 to 0.44 mmol/kg (1 to 2 mL/kg) over 10 minutes.</p> <p>Maintenance Infusion 0.44 to 0.88mmol/kg/day (2 to 4 mL/kg) over 24 hours</p> <p>Maximum 0.88 mmol/ kg/ day</p>
Dosage Adjustment	Adjust according to calcium levels
Adverse Reactions	<p>Common: abdominal distension, constipation</p> <p>Serious: Extravasation causing tissue necrosis; rapid infusion may cause bradycardia, hypotension and peripheral vasodilation</p>

Interactions	<ul style="list-style-type: none"> • Calcium Gluconate has a number of interactions – contact the Pharmacy department for further information • Calcium gluconate interact with Fat emulsion - not to be given with TPN • Do not mix with any medicine that contains phosphates, carbonates or sulfates • DO NOT MIX WITH SODIUM BICARBONATE
Compatible Fluids	Glucose 5% , Sodium chloride 0.9%
Preparation	<p><u>Urgent Correction:</u></p> <p>Prepare a 1:1 dilution of Calcium Gluconate for administration. e.g. for a 0.22 mmol dose (1 mL) dilute with 1 mL of a compatible fluid to a final volume of 2 mL.</p> <p><u>Maintenance infusion:</u></p> <p>Dilute calculated dose to a final volume of 25mL with a compatible fluid.</p>
Administration	<p><u>For intravenous use only</u> – Avoid intra-arterial, intramuscular or subcutaneous administration as calcium gluconate 10% is extremely irritant and may cause severe necrosis.</p> <p><u>Maintenance Infusion:</u> Infuse at 1 mL/hour</p> <p>Use central line if available</p> <p>If administering through UVC ensure tip of UVC is not in the heart or liver</p> <p>For rapid administration, push dose at a rate of 0.23 mmol/minute to reduce the risk of phlebitis/extravasation.</p>
Monitoring	<p>Serum calcium and ionised calcium concentrations.</p> <p>Cardiac monitoring during administration. The ECG should be monitored for evidence of hypercalcaemia, bradycardia and other arrhythmias (stop infusion if heart rate is less than 100 beats per minute).</p>
Storage	<p>Store at room temperature, below 25°C</p> <p>The solution may precipitate at low temperatures and must be discarded if it is cloudy or contains particles</p>

Related clinical guidelines	Exchange Transfusion Management of Hyperkalaemia General complications following cardiac surgery and management Prescribing and administration of medications to neonates
References	<p>Takemoto CK, Hodding JH, Kraus DM. Pediatric & neonatal dosage handbook with international trade names index : a universal resource for clinicians treating pediatric and neonatal patients. 23rd ed. Hudson (Ohio): Lexicomp; 2019. p2241.</p> <p>Truven Health Analytics. Calcium gluconate. In: Micromedex [Internet]. Greenwood Village (CO): Truven Health Analytics; 2019 [cited 2019 Nov 14]. Available from: http://www.micromedexsolutions.com/</p> <p>Truven Health Analytics. Calcium gluconate. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2019 [cited 2019 Nov 14]. Available from: https://neofax.micromedexsolutions.com/</p> <p>Society of Hospital Pharmacists of Australia. Calcium gluconate. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2019 [cited 2019 Nov 14]. Available from: http://aidh.hcn.com.au</p>

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For any enquiries relating to this guideline, please email KEMH.PharmacyAdmin@health.wa.gov.au

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