



NEONATAL Medication Monograph

CAFFEINE

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





Unrestricted: Any prescriber may initiate treatment

⚠ Check the dose carefully
⚠ Caffeine citrate 2mg is equivalent to caffeine base 1mg

Presentation	<p>These strengths are expressed as caffeine base</p> <p>Vial: 50mg/5mL = 10mg/mL</p> <p>Vial: Cafnea® 20mg/2mL =10mg/mL available at PCH</p> <p>Vial: 30mg/6mL = 5mg/mL available at KEMH (for maintenance doses)</p> <p>Oral Solution: 10mg/mL</p>
Description	CNS Stimulant
Indications	<ul style="list-style-type: none"> • Neonatal apnoea • Prevention of postoperative apnoea • Aid extubation from mechanical ventilation
Precautions	Use with caution in infants with cardiovascular disease; caffeine may increase heart rate, left ventricular output, and stroke volume
Dosage	<p><u>All Indications</u></p> <p>All doses are expressed as caffeine base</p> <p><u>IV/PO:</u></p> <p>Loading dose: 20mg/kg once only</p> <p>Maintenance dose: 5 to 7.5 mg/kg once daily (Max 10mg/kg/day)</p> <p>Commence maintenance dose 24 hours after loading dose.</p>
Adverse Reactions	<p>Common: gastric irritation, agitation, nausea vomiting</p> <p>Serious: tachycardia, diuresis, overdose arrhythmias, seizures</p>
Interactions	Do not give with aminophylline or theophylline

Compatible Fluids	Glucose 5%, Water for Injections
Preparation	<p>IV: Loading dose: Use <u>10mg/mL</u> product undiluted</p> <p>Maintenance Dose: Use <u>5mg/mL</u> product undiluted (KEMH) <i>If unavailable, use the following instruction to prepare a 5mg/mL caffeine base solution</i></p> <p><i>NB: dilution instructions are Brand specific</i></p> <p><i>If using the Cafnea® brand, prepare the following:</i> Withdraw 20mg (2mL) and make to total volume of 4mL with a compatible fluid Concentration is 20mg/4mL = <u>5mg/mL</u> caffeine base</p>
Administration	<p>IV: Loading dose: Infuse over 30 minutes Maintenance dose: Infuse over 10 minutes</p> <p>Oral: Give dose with feeds to reduce gastric irritation Consider delaying oral therapy until approximately 50% of nutrition is via the enteral route to decrease risk of gastric irritation.</p>
Monitoring	<p>Heart rate, number and severity of apnoea episodes and assess for agitation. Consider withholding if HR > 180 bpm Cardiorespiratory monitoring should continue for 5-7 days after cessation of caffeine for treatment of apnoea. Routine monitoring of levels is not required, check levels if suspected toxicity, or to confirm levels are within the therapeutic range.</p> <p><u>Sampling of levels</u> Level to be taken around 12 hours since the last dose.</p> <p><u>Caffeine levels</u> <u>Therapeutic range:</u> 5 – 30mg/L</p>
Storage	Store at room temperature, below 25°C

Notes	Caffeine citrate 2mg is equivalent to caffeine base 1mg All doses must be expressed as caffeine base
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. 24th ed. Hudson (Ohio): Lexicomp; 2019</p> <p>Truven Health Analytics. Caffeine Citrate. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2019 [cited 2020 Jan 21]. Available from: https://neofax.micromedexsolutions.com/</p> <p>British National Formulary. BNF for Children. 2018-19 ed. London, UK: BMJ Group and Pharmaceutical Press; 2018.</p> <p>Society of Hospital Pharmacists of Australia. Buprenorphine. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2019 [cited 2020 Jan 21]. Available from: http://aidh.hcn.com.au</p>

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