# 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

<table>
<thead>
<tr>
<th>Presentation</th>
<th>These strengths are expressed as caffeine base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vial: 50mg/5mL</td>
<td>= 10mg/mL</td>
</tr>
<tr>
<td>Vial: Cafnea® 20mg/2mL</td>
<td>= 10mg/mL available at PCH</td>
</tr>
<tr>
<td>Vial: 30mg/6mL</td>
<td>= 5mg/mL available at KEMH <em>(for maintenance doses)</em></td>
</tr>
<tr>
<td>Oral Solution:</td>
<td>10mg/mL</td>
</tr>
</tbody>
</table>

### Description
CNS Stimulant

### Indications
- 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
**All Indications**
All doses are expressed as *caffeine base*

**IV/PO:**
- **Loading dose:** 20mg/kg once only
- **Maintenance dose:** 5 to 7.5 mg/kg once daily *(Max 10mg/kg/day)*

Commence maintenance dose 24 hours after loading dose.

### Adverse Reactions
**Common:** gastric irritation, agitation, nausea vomiting
**Serious:** tachycardia, diuresis, overdose arrhythmias, seizures

### Interactions
Do not give with aminophylline or theophylline
### Compatible Fluids

| Preparation | Glucose 5%, Water for Injections |

### Preparation

<table>
<thead>
<tr>
<th>IV:</th>
<th></th>
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<tbody>
<tr>
<td><strong>Loading dose:</strong> Use <strong>10mg/mL</strong> product undiluted</td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance Dose:</strong> Use <strong>5mg/mL</strong> product undiluted (KEMH)</td>
<td></td>
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</tbody>
</table>

If unavailable, use the following instruction to prepare a **5mg/mL caffeine base solution**

**NB: dilution instructions are Brand specific**

If using the Cafnea® brand, prepare the following:

Withdraw 20mg (2mL) and make to total volume of 4mL with a compatible fluid.

Concentration is 20mg/4mL = **5mg/mL caffeine base**

### Administration

<table>
<thead>
<tr>
<th>IV:</th>
<th></th>
</tr>
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<tbody>
<tr>
<td><strong>Loading dose:</strong> Infuse over 30 minutes</td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance dose:</strong> Infuse over 10 minutes</td>
<td></td>
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</tbody>
</table>

**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.

### Monitoring

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.

**Sampling of levels**

Level to be taken around 12 hours since the last dose.

**Caffeine levels**

*Therapeutic range: 5 – 30mg/L*

### Storage

Store at room temperature, below 25°C
# Notes

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## References