Clinical Guideline
Caffeine Citrate

Policy developed by: SA Maternal & Neonatal Clinical Community of Practice
Approved by Safety & Quality Strategic Governance Committee on: 28 April 2017
Next review due: 30 April 2020

Summary
The purpose of the Caffeine Citrate Neonatal Medication Guideline is to guide nursing, medical and pharmacy staff in the dosing and administration of caffeine citrate

Keywords
Caffeine citrate, neonatal medication guideline, caffeine, apnoea, neonatal apnoea, tachycardia, agitation, clinical guideline, Caffeine Citrate Neonatal Medication Guideline

Policy history
Is this a new policy? N
Does this policy amend or update an existing policy? Y v1.0
Does this policy replace an existing policy? N
If so, which policies?

Applies to
All Health Networks
CALHN, SALHN, NALHN, CHSALHN, WCHN

Staff impact
All Clinical, Medical, Midwifery, Nursing, Students, Allied Health, Emergency, Mental Health, Pathology, Pharmacy

PDS reference CG016

Version control and change history

<table>
<thead>
<tr>
<th>Version</th>
<th>Date from</th>
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<tbody>
<tr>
<td>1.0</td>
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South Australian Neonatal Medication Guidelines

caffeine citrate
40mg/2mL injection, 20mg/mL oral solution

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Note

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient’s medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Dose and Indications

All doses must be prescribed as caffeine citrate.

1mg of caffeine is equivalent to 2mg caffeine citrate

Neonatal Apnoea

Facilitation of Extubation

Intravenous, Oral

Loading Dose

Loading dose 20mg/kg. A loading dose of up to 80mg/kg has been used.

Maintenance Dose

5 to 10mg/kg/dose every 24 hours, commencing 24 hours after the loading dose

Maintenance doses of up to 20mg/kg have been used.

Preparation and Administration

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Last Revised: 27/04/2017
Contact: Health:NeoMed@sa.gov.au
Intravenous
To ensure clear orders ALWAYS prescribe dose as milligrams of caffeine citrate. The intravenous injection contains 20mg/mL caffeine citrate.

<table>
<thead>
<tr>
<th>Dose</th>
<th>5mg</th>
<th>10mg</th>
<th>15mg</th>
<th>20mg</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>0.25mL</td>
<td>0.5mL</td>
<td>0.75mL</td>
<td>1mL</td>
<td>1.25mL</td>
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Administer intravenous loading doses as an infusion over at least 30 minutes.

Administer intravenous maintenance doses as a bolus injection over at least 3 minutes.

Intravenous doses may be given undiluted, or diluted with compatible fluid for ease of administration.

Oral
To ensure clear orders ALWAYS prescribe dose as milligrams of caffeine citrate. The oral solution contains 20mg/mL caffeine citrate.

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<td>0.5mL</td>
<td>0.75mL</td>
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Give with feeds to minimise gastrointestinal irritation.

Compatible Fluids
Glucose 5%, glucose 10%

Adverse Effects

Common
Diuresis, tachycardia, agitation

Rare
Hypertonia, severe hyperglycaemia, heart failure and seizures

No obvious cardiovascular, neurologic toxicity has been observed at plasma caffeine concentrations below 50microg/mL
Monitoring

> Monitor heart-rate. Withhold dose and notify prescriber if the heart rate exceeds 180 beats/minute
> Cardio respiratory monitoring of all neonates is required for 3 to 5 days after caffeine citrate therapy has been ceased
> If neonate is not on a monitor at the time of ceasing the medication, then cardio respiratory monitoring must be performed from 24 hours after the last dose of caffeine citrate
> Caffeine citrate should be dosed according to clinical response. Caffeine citrate has a wide therapeutic range and therefore therapeutic drug monitoring is not usually recommended. Therapeutic response has been achieved at around 10-35microg/mL.

Practice Points

> Caffeine half-life and clearance vary linearly with postnatal age. When caffeine is used for older infants the frequency of administration should be increased: refer to Paediatric Dosing Guidelines

Reference


Version control and change history

**PDS reference:** OCE use only

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**Contact:** South Australian Neonatal Medication Guidelines Workgroup at Health:NeoMed@sa.gov.au