

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 base is equivalent to 2mg caffeine citrate

Neonatal Apnoea

Facilitation of Extubation

Intravenous, Oral

Loading Dose

Loading dose 20mg/kg

Maintenance Dose

5 to 20mg/kg/dose every 24 hours, commencing 24 hours after the loading dose



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Preparation and Administration

Intravenous

To ensure clear orders ALWAYS prescribe dose as milligrams of caffeine citrate. The intravenous injection contains 20mg/mL caffeine citrate

Dose	5mg	10mg	15mg	20mg	25mg
Volume	0.25mL	0.5mL	0.75mL	1mL	1.25mL

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.

Dose	5mg	10mg	15mg	20mg	25mg
Volume	0.25mL	0.5mL	0.75mL	1mL	1.25mL

Give with feeds to minimise gastrointestinal irritation.

Compatible Fluids

Glucose 5%, glucose 10%

Adverse Effects

Common

Diuresis, tachycardia, agitation, gastric irritation

Rare

Hypertonia, severe hyperglycaemia, heart failure and seizures

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



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Monitoring

- > Monitor heart rate. Withhold dose and notify prescriber if the heart rate exceeds 180 beats/minute
- > Cardiorespiratory 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 cardiorespiratory 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
- > Use with caution in neonates with impaired renal or hepatic function, seizure disorders, cardiovascular disease or congenital heart disease

Document Ownership & History

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