

dexamethasone

4mg/mL injection, 1mg/mL oral syrup*

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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

Bronchopulmonary Dysplasia

Facilitating Extubation

Intravenous, Intramuscular or Oral

0.05mg/kg to 0.1mg/kg twice a day.

Dose and duration of treatment are dependent on clinical response and directed by a neonatologist.

Treatment of post-intubation laryngeal oedema

Intravenous or Oral

0.2mg/kg given 8 hourly for three doses (to be started at least 4 hours and preferable 12 hours prior to tube removal)

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Preparation and Administration

Intravenous for doses less than 0.4mg

Dilute 0.1mL of the 4mg/mL dexamethasone sodium phosphate injection with 3.9mL sodium chloride 0.9% (to a total volume of 4mL). The resulting solution contains 0.1mg/mL dexamethasone.

Dose	0.05mg	0.1mg	0.15mg	0.2mg	0.25mg	0.3mg
Volume	0.5mL	1mL	1.5mL	2mL	2.5mL	3mL

To be administered as a slow push over at least 3 minutes

Discard any remaining solution.

Intravenous for doses greater than 0.4mg

Use undiluted dexamethasone sodium phosphate injection (4mg/mL)

Dose	0.4mg	0.8mg	1.2mg	1.6mg	2mg	2.4mg
Volume	0.1mL	0.2mL	0.3mL	0.4mL	0.5mL	0.6mL

To be administered as a slow push over at least 3 minutes

Discard any remaining solution.

Oral

Oral dexamethasone solution contains 1mg/mL.

Oral dexamethasone doses only require dilution when small doses are administered to ensure accuracy of dose.

Dilute 0.5mL of dexamethasone oral solution (1mg/mL) with 4.5mL of water for irrigation (to a total volume of 5mL). The resulting solution contains 0.1mg/mL

Dose	0.04mg	0.06mg	0.08mg	0.1mg	0.12mg	0.14mg
Volume	0.4mL	0.6mL	0.8mL	1mL	1.2mL	1.4mL

Give with or after feeds to minimise gastrointestinal irritation

Discard remaining diluted solution

Compatible Fluids

Glucose 5%, sodium chloride 0.9%

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Adverse Effects

These occur when dexamethasone is used at pharmacological doses. The incidence of adverse effects is related to dose and duration of treatment.

Common

Adrenal suppression¹, increased susceptibility to infection, masking of signs of infection, sodium and water retention, hypertension, hypokalaemia, hyperglycaemia, dyslipidaemia, osteoporosis, fractures, dyspepsia, delayed wound healing, skin atrophy, bruising, hirsutism, growth retardation, myopathy, muscle wasting, cushingoid appearance, weight gain, cataracts

Infrequent

Osteonecrosis, particularly of the femoral and humeral heads, ocular hypertension, glaucoma

Rare

Peptic ulceration, hypersensitivity reactions, tendon rupture (especially of the Achilles tendon)

Monitoring

- > Monitor for hypertension, hyperglycaemia and sepsis as per local unit protocol

Practice Points

- > *Oral syrup is prepared at Women's & Children's Health Network Pharmacy. If not available the injection solution may be given orally (please note that these solutions are of different concentrations)
- > Caution with use in the following patient groups: gastric ulceration, hypertension, concurrent use of indomethacin/ibuprofen, renal impairment or cardiac disease
- > If an infant has been on dexamethasone in the last month, cover for possible adrenal suppression during subsequent episodes of stress with IV hydrocortisone

Steroid equivalents (glucocorticoid activity)

Cortisone Acetate	5mg
Dexamethasone	0.15mg
Hydrocortisone	4mg
Methylprednisolone	0.8mg
Prednisolone / Prednisone	1mg

¹ Acute cardiovascular collapse may occur when corticosteroids are abruptly stopped or if adrenal response is inadequate in periods of stress such as infection, trauma, surgery and blood loss.

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Reference

1. Doyle LW, Davis PG, Morley CJ et al. DART Study Investigators: Low dose dexamethasone facilitates extubation among chronically ventilator dependant infants: a multicentre international randomized, controlled trial. Pediatrics 2006; 117:75-83

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