

South Australian Neonatal Medication Guidelines

# dexamethasone

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

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### 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)

### 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

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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%

### 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 suppression<sup>1</sup>, 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

<sup>1</sup> 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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- > 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

## Reference

- > 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

## Version control and change history

**PDS reference:** OCE use only

Version	Date from	Date to	Amendment
1.0	November 2012	current	Original version