

## Dexamethasone for neonates

### BRIEF ADMINISTRATION GUIDE

For detailed information refer to [The Australasian Neonatal Medicines Formulary dexamethasone guideline](#)



**Note:** Shaded text indicates where Te Whatu Ora Waikato practice differs from ANMF

### 1. Medicine

#### 1.1. Indications

- To facilitate extubation and improve lung function in ventilated neonates at risk of or with established chronic lung disease (CLD)
- Treatment of post extubation laryngeal oedema

**Note:**

- contraindicated** in concurrent infection and indomethacin/ibuprofen use
- consider delaying dexamethasone course for 1-2 weeks before or after major surgery
- consider delaying immunisations for 2 weeks after completing dexamethasone course

#### 1.2. Route and Presentation

**Intravenous or oral**

- Injection supplied as dexamethasone phosphate 4 mg/mL ampoule (preservative free if possible)
  - pH of dexamethasone is 7 to 9
- Oral supplied as dexamethasone 1 mg/mL oral liquid

**Notes:**

- Dexamethasone oral liquid is an unregistered medicine available under section 29 of the Medicines Act.
- If the oral liquid is not available the injection solution can be administered orally
- The oral dose is considered clinically equivalent to the intravenous dose

#### 1.3. Dose

For prevention and/or treatment of Chronic Lung Disease/Bronchopulmonary Dysplasia

**Low dose regimen (total cumulative dose 0.89 mg/kg) – DART protocol**

- 75 microgram/kg/dose 12 hourly for 3 days then,
- 50 microgram/kg/dose 12 hourly for 3 days then,
- 25 microgram/kg/dose 12 hourly for 2 days then,
- 10 microgram/kg/dose 12 hourly for 2 days then cease.

**Moderate dose protocol (total cumulative dose 3.6 mg/kg) (modified 18-day regimen)**

- 250 microgram/kg/dose 12 hourly for 3 days then,
- 150 microgram/kg/dose 12 hourly for 3 days then,
- 100 microgram/kg/dose 12 hourly for 3 days then,
- 50 microgram/kg/dose 12 hourly for 3 days then,
- 25 microgram/kg/dose 12 hourly for 6 days then cease.

**High dose regimen (total cumulative dose 7.98 mg/kg) (modified 42-day regimen) – Cummings protocol**

- 250 microgram/kg/dose BD x 3 days then,
- 150 microgram/kg/dose BD x 3 days then,
- 135 microgram/kg/dose BD x 3 days then,
- 120 microgram/kg/dose BD x 3 days then,
- 110 microgram/kg/dose BD x 3 days then,
- 100 microgram/kg/dose BD x 3 days then,
- 90 microgram/kg/dose BD x 3 days then,
- 80 microgram/kg/dose BD x 3 days then,
- 70 microgram/kg/dose BD x 3 days then,
- 65 microgram/kg/dose BD x 3 days then,
- 60 microgram/kg/dose BD x 3 days then,
- 50 microgram/kg/dose BD x 3 days then,
- 100 microgram/kg/dose DAILY on alternate days x 3 doses

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### Notes:

- Discussion with the caregivers regarding this treatment **must** be documented in the clinical notes.
- If baby is receiving hydrocortisone either the dexamethasone can be delayed or if deemed necessary the hydrocortisone course finished early i.e. only one steroid at any given time
- Protocols can be repeated or individualised if necessary at SMO discretion
- An individualised weaning course may be applied

### Laryngeal oedema post extubation

- 0.25 mg/kg/dose given at least 4 hours prior to scheduled extubation, then every 8 hours for a total of 3 doses

## 2. Preparation and Administration

### 2.1. Compatible fluids

glucose 5%, glucose 10%, sodium chloride 0.9%, glucose and sodium chloride

### 2.2. Administration Method

#### Direct IV Injection

- Select the most appropriate concentration of dexamethasone based on the dose, weight of the infant and in the context of any fluid restrictions and dilute the appropriate volume of dexamethasone injection using compatible fluid in accordance with the table below:

Final Dexamethasone Concentration	200 microgram/mL	1 mg/mL
Volume of dexamethasone (4mg/mL)	0.2 mL	0.5 mL
Volume of compatible fluid	3.8 mL	1.5 mL
Total volume to then draw dose up from	4 mL	2 mL

- Visually inspect for cloudiness or particulate matter, do not use if present
- Draw up the prescribed dose and administer over 3 - 5 minutes

#### Oral

- Shake well before drawing up the required dose
- When the dose is less than 0.1 mL of the oral liquid, a further dilution may be carried out to ensure accuracy of the dose. Dilute 1 mL dexamethasone oral liquid with 4 mL water for injection to make a 200 microgram/mL solution and mix well
- If the oral liquid is unavailable and the injection solution is to be used orally prepare as per the above table (under Direct IV Injection) and use water for injection as the diluent
- Draw up the prescribed dose and administer after feeds to minimise adverse effects

### 2.3. Monitoring

- Monitor blood pressure and blood gas (glucose and electrolytes) at least daily
- Observe closely for signs of infection

### 2.4. Storage and Stability

- Store dexamethasone ampoules at room temperature (below 25°C) and protect from light
- Prepare immediately before use and discard any unused solution in the ampoule
- Store dexamethasone oral liquid in the refrigerator (2 to 8°C) and discard 7 days from opening

### 2.5. Competency for Administration

This procedure is carried out by, or under, the direct supervision of a registered nurse/registered midwife who holds current Te Whatu Ora Waikato Generic Medicine Management and IV certification as well as Neonatal specific competency NCV/NAC (if administering via CVAD).

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### 2.6. Guardrails

Dexamethasone is NOT Guardrails profiled on the CC syringe driver.

### 3. Associated Documents

- Chronic Lung Disease (to be uploaded soon)

### 4. References

- Australian Neonatal Medicines Formulary. Dexamethasone Drug Guideline 2022, available from: [https://www.anmfonline.org/wp-content/uploads/2022/05/Dexamethasone\\_ANMFv6.0\\_20220506.pdf](https://www.anmfonline.org/wp-content/uploads/2022/05/Dexamethasone_ANMFv6.0_20220506.pdf)
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### Document Ownership

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