

hydrocortisone

100mg injection, 4mg tablet, 1% topical

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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

Synonyms

Cortisol

Dose and Indications

Bronchopulmonary Dysplasia (BPD)

While dexamethasone is the treatment of choice, there is literature to suggest hydrocortisone is useful in some patient groups.

Intravenous, Oral

0.5 to 1mg/kg four times a day as starting dose then reduce.

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

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Congenital Adrenal Hyperplasia (Acute)

Intravenous, Intramuscular

Gestational Age (weeks)	Dose (mg)
<37 weeks	4mg/kg as a single dose
≥ 37 weeks	25mg as a single dose

Congenital Adrenal Hyperplasia (Maintenance)

Seek consultant endocrinologist advice

Refractory Hypoglycaemia

Intravenous, Oral

2.5mg/kg every 6 hours as required

Hypotension

Intravenous

1mg/kg repeated every 8 hours as required.

Inflammation

Topical

Apply 1% hydrocortisone ointment or cream to the affected area 1 or 2 times a day

Surgical Stress

Intravenous

To cover adrenal suppression in neonates:

- > currently on dexamethasone; or
 - > finished a course of dexamethasone lasting more than 1 week less than 4 weeks ago
- 1mg/kg prior to surgery and then 1mg/kg every 6 hours IV for up to 48 hours.

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Preparation and Administration

Intravenous

There are **TWO STEPS** to this process.

STEP ONE: Add 2mL of Water for Injection to the vial (100mg) and shake gently to dissolve (to a total volume of 2mL). The resulting solution contains 50mg/mL hydrocortisone.

The ACT-O-VIAL product is stable for 24 hours stored under refrigeration – check with local policy about re-accessing vial for the same patient.

STEP TWO: Further dilute 2mL of the 50mg/mL hydrocortisone solution with 18mL of compatible fluid (to a total volume of 20mL). The resulting solution contains 5mg/mL hydrocortisone.

Dose	0.5mg	1mg	2.5mg	5mg	7.5mg	10mg
Volume	0.1mL	0.2mL	0.5mL	1mL	1.5mL	2mL

Infuse over 30 minutes.

Oral

Disperse tablets in sterile water prior to administration by adding a 4mg tablet to 4mL of Water for Injection and shake well. The resultant solution contains 1mg/mL hydrocortisone. Discard any remaining mixture.

Doses should be administered during or after a feed to reduce stomach discomfort.

Topical

Apply sparingly. Avoid topical application to large body surface areas since appreciable absorption may occur resulting in systemic effects.

Compatible Fluids

Glucose 5%, glucose 10%, glucose/sodium chloride solutions, sodium chloride 0.9%

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Adverse Effects

These occur when hydrocortisone is used at pharmacological doses. The incidence of adverse effects is related to dose and duration of treatment. Systemic effects may result from topical treatment.

Common

[Adrenal suppression](#), 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 restriction, muscle wasting, cushingoid appearance, weight gain, cataracts

Infrequent

Osteonecrosis, particularly of the femoral and humeral heads, glaucoma

Rare

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

Monitoring

- > Monitor blood pressure, plasma glucose and infection as per local unit protocol

Practice Points

- > Hydrocortisone in the eye is used under ophthalmology recommendation only
- > Topical hydrocortisone is a mild corticosteroid and is contraindicated in untreated skin infections
- > When applying topically, avoid contact with eyes
- > Use cautiously in patients with gastrointestinal ulceration, hypertension, hyperglycaemia, renal impairment or hypothyroidism
- > Carbamazepine, phenobarbitone, phenytoin and rifampicin all increase steroid metabolism
- > Frusemide, chlorothiazide, amphotericin B are associated with potassium depletion which may be exacerbated by hydrocortisone therapy
- > 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.

Steroid equivalents (glucocorticoid activity)

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

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References

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2. American Academy of Pediatrics Committee on Fetus and Newborn. Postnatal Corticosteroids to treat or prevent chronic lung disease in preterm infants. Pediatrics Vol. 109 No. 2 February 2002

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