

hydrocortisone

100mg injection, 4mg tablets, 1% topical

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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

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

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.

Preparation and Administration

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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%

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,

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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 |

References

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South Australian Maternal & Neonatal Clinical Network
South Australian Neonatal Medication Guidelines Workgroup at:
NeoMed@health.sa.gov.au

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- > Rademaker KJ, Uiterwaal CSPM, Groenendaal F, Uniken Venema MMAT, van Bel F, Beek, FJ et al. Neonatal Hydrocortisone Treatment: Neurodevelopmental Outcome and MRI at School Age in Preterm-born Children. J Pediatr 2007; 150:351-7
- > 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

Version control and change history

PDS reference: OCE use only

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