NEONATAL Medication Monograph

HYDROCORTISONE

This document should be read in conjunction with this **DISCLAIMER**

Restricted: Requires Neonatologist or relevant specialist review within 24 hours of initiation

Presentation	**Vial:** 100mg (powder for reconstitution) **Oral Solution:** 1mg/mL (Prepared in Pharmacy)
Description	Corticosteroid – Glucocorticoid
Indications	• Physiological replacement in hypoadrenalism • Relative adrenal insufficiency (RAI) in sick neonate where hypotension is refractive to inotropic agents and random cortisol <414nmol/L • Short term adjunct therapy for Intractable Hypoglycaemia
Contraindications	Systemic fungal infection
Precautions	Untreated systemic bacterial infections Use with caution in patient with renal impairment, hypothyroidism or cardiac disease Prolonged corticosteroid Use
Dosage	**Physiological replacement (Hypoadrenalism)** *Consult endocrinologist* **IV/Oral** 8 to 18 mg/m^2 per day in 2 or 3 divided doses **Hypotension refractive to inotrope in patients with RAI** **CGA** / **Dose** / **Frequency** < 35 weeks / 1mg/ kg/ dose / Every 12 hours ≥ 35 weeks / 1mg/ kg/ dose / Every 8 hours Stop if random cortisol > 414nmol/L. Use for least possible duration, until stable off inotropes. Usually 2-5 days. **Intractable Hypoglycaemia** **IV/Oral:** 1-2mg/ kg/ dose every 6 hours

Dosage Adjustment	Withdraw therapy with gradual tapering after prolonged use
Adverse Reactions	**Common:** abdominal distension, oesophagitis, impaired wound healing hypertension, hyperglycaemia, petechiae
	Serious: hypokalaemia, convulsions, growth suppression
Interactions	Concurrent use with NSAID (increases risk of GI perforation)
Compatible Fluids	Sodium chloride 0.9%, Glucose 5%
Preparation	***Use solution prepared in Pharmacy if available.*** **IV Push:** ***Reconstitution*** Add 2mL of Water for Injections or Sodium Chloride 0.9% to 100mg powder for reconstitution Concentration is 100mg/2mL **Final concentration is 50mg/mL** May be further diluted if required ***Dilution*** Take 2mL (100mg) of the above solution and dilute it to 10mL with a compatible fluid. Concentration is 100mg/10mL **Final concentration is 10 mg/mL** **IV Infusion:** ***Reconstitution*** Add 2mL of Water for Injections or Sodium Chloride 0.9% to 100mg powder for reconstitution Concentration is 100mg/2mL ***Dilution*** Take 1mL (50mg) of the above solution and dilute it to 50mL with a compatible fluid. Concentration is 50mg/50mL **Final concentration is 1mg/mL** **Oral:** Use solution prepared in Pharmacy

<table>
<tr><td>Administration</td><td><u>IV Push :</u> Over 3-5 minutes
<u>IV Infusion:</u> Infuse over 10 to 30 minutes
<u>Oral:</u> Given with or immediately after feeds.</td></tr>
<tr><td>Monitoring</td><td>Blood pressure and blood glucose frequently during acute illness.
In primary adrenal insufficiency, growth velocity, body weight, blood pressure, blood glucose, electrolytes, bone mineral density</td></tr>
<tr><td>Storage</td><td>Store at room temperature, below 25°C</td></tr>
<tr><td>Notes</td><td>Body Surface Area:
<table>
<tr><th>Weight (Kg)</th><th>Surface area (sq. meters)</th></tr>
<tr><td>0.6</td><td>0.08</td></tr>
<tr><td>1</td><td>0.1</td></tr>
<tr><td>1.4</td><td>0.12</td></tr>
<tr><td>2</td><td>0.15</td></tr>
<tr><td>3</td><td>0.2</td></tr>
<tr><td>4</td><td>0.25</td></tr>
</table>
*BSA (m^2)= (0.05 x kg) + 0.05</td></tr>
<tr><td>Related clinical guidelines</td><td>Cortisol Estimation and ACTH Stimulation Testing</td></tr>
<tr><td>References</td><td>British National Formulary for Children. Hydrocortisone. In: BNF 2018-2019 London (United Kingdom): BMJ Group 2018 Truven Health Analytics. Hydrocortisone. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2020 [cited 2020 Feb 23]. Available from: https://neofax.micromedexsolutions.com/

Society of Hospital Pharmacists of Australia. Hydrocortisone In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2020 [cited 2020 Feb 23] Available from: http://aidh.hcn.com.au

Takemoto CK, Hodding JH, Kraus DM. Pediatric & neonatal dosage handbook with international trade names index : a universal resource for clinicians treating pediatric and neonatal patients. 24th ed. Hudson (Ohio): Lexicomp; 2401. 2, p991.</td></tr>
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