Drug Therapy Protocols: Hydrocortisone

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Hydrocortisone

**Drug class**
Corticosteroid

**Pharmacology**
Hydrocortisone is an adrenocortical steroid that produces an anti-inflammatory process. This inhibits the accumulation of inflammatory cells at inflammation sites, phagocytosis, lysosomal enzyme release and synthesis and/or release of mediators of inflammation. Additionally, it prevents and suppresses cell mediated immune reactions.\(^1\)\(^-\)\(^3\)

**Metabolism**
Hepatic \(^1\)

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**Indications**
- Asthma (excluding mild)
- Acute exacerbation of COPD (with evidence of respiratory distress)
- Severe allergic reaction OR anaphylaxis (requiring adrenaline (epinephrine) administration)
- Symptomatic adrenal insufficiency \(^4\)\(^,\)\(^5\) (with a known history of Addison’s disease, congenital adrenal hyperplasia, pan-hypopituitarism or long-term steroid administration)

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**Contraindications**
- Allergy and/or Adverse Drug Reaction

**Precautions**
- Hypertension

**Side effects**
- Nil

**Presentation**
- Vial, 100 mg hydrocortisone

**Onset (IV)**  |  **Duration (IV)**  |  **Half-life**
--- | --- | ---
1–2 hours | 6–12 hours | 6–8 hours
### Hydrocortisone

#### Schedule
- S4 (Restricted drugs).

#### Routes of administration
- Intramuscular injection (IM)
- Intravenous injection (IV)

#### Special notes
- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the QAS Clinical Consultation and Advice Line.
- Each 100 mg hydrocortisone vial is to be reconstituted with 2 mL of sodium chloride 0.9% or water for injection.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.
- All parenteral medications must be prepared in an aseptic manner. The rubber stopper of all vials must be disinfected with an appropriate antimicrobial swab and allowed to dry prior to piercing.

#### Adult dosages

| Condition                                                                 | IM | IV
|---------------------------------------------------------------------------|----|----|
| **Severe allergic reaction OR anaphylaxis** (requiring adrenaline (epinephrine) administration) | 200 mg | 200 mg
| **Symptomatic adrenal insufficiency** (with a known history of Addison’s disease, congenital adrenal hyperplasia, pan-hypopituitarism or long-term steroid administration) | 100 mg | 100 mg

**All doses are single doses only.**
## Paediatric dosages

- **Asthma** (excluding mild)
- **Severe allergic reaction OR anaphylaxis**
  (requiring adrenaline (epinephrine) administration)

<table>
<thead>
<tr>
<th></th>
<th>IM</th>
<th>4 mg/kg</th>
<th>Single dose only, not to exceed 100 mg.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IV</td>
<td>4 mg/kg</td>
<td>Slow push over 1 minute. Single dose only, not to exceed 100 mg.</td>
</tr>
</tbody>
</table>

### Symptomatic adrenal insufficiency
(with a known history of Addison’s disease, congenital adrenal hyperplasia, pan-hypopituitarism or long-term steroid administration)

<table>
<thead>
<tr>
<th></th>
<th>IM</th>
<th></th>
<th>0 – 4 years – 25 mg 5 – 10 years – 50 mg &gt; 10 years – 100 mg Single dose only.</th>
</tr>
</thead>
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<tr>
<td></td>
<td>IV</td>
<td>0 – 4 years – 25 mg 5 – 10 years – 50 mg &gt; 10 years – 100 mg Slow push over 1 minute. Single dose only.</td>
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