Drug Therapy Protocols: Hydrocortisone

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Clinical.Guidelines@ambulance.qld.gov.au

<table>
<thead>
<tr>
<th>Date</th>
<th>October, 2016</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to Hydrocortisone administration.</td>
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<tr>
<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
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<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
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<tr>
<td>Review date</td>
<td>April, 2018</td>
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**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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**Contraindications**
- KSAR or hypersensitivity to hydrocortisone

**Precautions**
- Hypertension

**Side effects**
- Nil

**Indications**
- **Moderate** OR **severe asthma**
- **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)

**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

<table>
<thead>
<tr>
<th>Route</th>
<th>ACP2</th>
<th>ECP</th>
<th>CCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramuscular injection (IM)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous injection (IV)</td>
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</tbody>
</table>

Special notes

- 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 a 2% Chlorhexidine/70% Isopropyl Alcohol swab and allowed to dry prior to piercing.

Adult dosages

- **Moderate OR severe asthma**
- **Acute exacerbation of COPD** (with evidence of respiratory distress)
- **Severe allergic reaction OR anaphylaxis** (requiring adrenaline (epinephrine) administration)

**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>Route</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM</td>
<td>100 mg</td>
<td>Single dose only.</td>
</tr>
<tr>
<td>IV</td>
<td>100 mg</td>
<td>Slow push over 1 minute. Single dose only.</td>
</tr>
</tbody>
</table>
Paediatric dosages

- **Moderate OR severe asthma**
- **Severe allergic reaction OR anaphylaxis**
  (requiring adrenaline (epinephrine) administration)

<table>
<thead>
<tr>
<th>Route</th>
<th>IM</th>
<th>ECP – QAS Clinical Consultation and Advice Line approval required in all situations. 4 mg/kg Single dose only, not to exceed 100 mg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route</td>
<td>IV</td>
<td>ECP – QAS Clinical Consultation and Advice Line approval required in all situations. 4 mg/kg 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>Route</th>
<th>IM</th>
<th>&lt; 2 years – 25 mg 2–12 years – 50 mg Single dose only.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route</td>
<td>IV</td>
<td>&lt; 2 years – 25 mg 2–12 years – 50 mg Slow push over 1 minute. Single dose only.</td>
</tr>
</tbody>
</table>