### Drug Therapy Protocols: Hydrocortisone

<table>
<thead>
<tr>
<th>Policy code</th>
<th>DTP_HYDC_0221</th>
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<tbody>
<tr>
<td>Date</td>
<td>February, 2021</td>
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<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 Queensland Ambulance Service (QAS) clinical staff.</td>
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<tr>
<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
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<tr>
<td>Population</td>
<td>Applies to all ages unless specifically mentioned.</td>
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<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>February, 2024</td>
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Hydrocortisone

Drug class
Corticosteroid

Pharmacology
Hydrocortisone is an adrenocorticoid steroid with multiple mechanisms of action including anti-inflammatory activity, immunosuppressive properties and anti-proliferative actions.[1-3]

Metabolism
Hepatic metabolism, renal excretion[4]

Indications
- Asthma (excluding mild)
- Acute exacerbation of COPD (with evidence of respiratory distress)
- Refractory anaphylaxis with persistent wheeze (and unresponsive to 3 x IM adrenaline (epinephrine))
- Symptomatic adrenal insufficiency[4,5] (with a known history of Addison’s disease, congenital adrenal hyperplasia, pan-hypopituitarism or long-term steroid administration)

Contraindications
- Allergy AND/OR Adverse Drug Reaction

Precautions
- Hypertension

Side effects
- Nil

Presentation
- Vial (powder), 100 mg hydrocortisone sodium succinate

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

- **Asthma** (excluding mild)
- **Acute exacerbation of COPD** (with evidence of respiratory distress)
- **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>Condition</th>
<th>IM Dosage</th>
<th>IV Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma (excluding mild)</td>
<td>100 mg</td>
<td>Single dose only.</td>
</tr>
<tr>
<td>Acute exacerbation of COPD (w/ evidence of respiratory distress)</td>
<td>100 mg</td>
<td>Slow push over 1 minute. Single dose only.</td>
</tr>
<tr>
<td>Symptomatic adrenal insufficiency (w/ known history of Addison's disease, congenital adrenal hyperplasia, pan-hypopituitarism or long-term steroid administration)</td>
<td>200 mg</td>
<td>Single dose only.</td>
</tr>
<tr>
<td>Refractory anaphylaxis with persistent wheeze (w/ unresponsive to 3 x IM adrenaline (epinephrine))</td>
<td>200 mg</td>
<td>Slow push over 1 minute. Single dose only.</td>
</tr>
</tbody>
</table>
# Paediatric dosages

- **Asthma** (excluding mild)
- **Refractory anaphylaxis with persistent wheeze** (and unresponsive to 3 x IM adrenaline (epinephrine))

|   | IM  | 4 mg/kg  
|---|-----|----------
|   |     | Single dose only, not to exceed 100 mg. |

|   | IV  | 4 mg/kg  
|---|-----|----------
|   |     | Slow push over 1 minute. 
|   |     | Single dose only, not to exceed 100 mg. |

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

|   | IM  | 0–4 years – 25 mg  
|---|-----|-------------------
|   |     | 5–10 years – 50 mg  
|   |     | > 10 years – 100 mg  
|   |     | Single dose only. |

|   | IV  | 0–4 years – 25 mg  
|---|-----|-------------------
|   |     | 5–10 years – 50 mg  
|   |     | > 10 years – 100 mg  
|   |     | Slow push over 1 minute. 
|   |     | Single dose only. |