



Drug Therapy Protocols: Hydrocortisone

Policy code	DTP_HYDC_1122
Date	November, 2022
Purpose	To ensure a consistent procedural approach to hydrocortisone administration.
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
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Hydrocortisone

November, 2022

Drug class

Corticosteroid

Pharmacology

Hydrocortisone is an adrenocorticoid steroid with multiple mechanisms of action including anti-inflammatory activity, immunosuppressive properties and anti-proliferative actions.^[1,2]

Metabolism

Hepatic metabolism, renal excretion^[1]

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))
- **Suspected, or at risk of, an acute adrenal insufficiency (adrenal crisis)**^[3]

Contraindications

- Allergy AND/OR Adverse Drug Reaction

Precautions

- Hypertension

Side effects

- Nil

Presentation

- Vial (powder and solvent), 100 mg *hydrocortisone* (*Act-O-Vial™*)
- Vial (powder), 100 mg *hydrocortisone sodium succinate*

Onset (IV)

1–2 hours

Duration (IV)

6–12 hours

Half-life

1–2 hours

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*.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.
- Each 100 mg hydrocortisone vial is to be reconstituted with 2 mL sodium chloride 0.9% or water for injection.
- 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^[1-4]

- **Asthma** (excluding mild)
- **Acute exacerbation of COPD** (with evidence of respiratory distress)
- **Suspected, or at risk of, an acute adrenal insufficiency (adrenal crisis)**



IM

100 mg
Single dose only.



IV

100 mg
Slow push over **1 minute**.
Single dose only.

Refractory anaphylaxis with persistent wheeze
(and unresponsive to 3 x IM adrenaline (epinephrine))



IM

200 mg
Single dose only.



IV

200 mg
Slow push over **1 minute**.
Single dose only.

Paediatric dosages^[1-4]

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

ACP2 CCP	IM	4 mg/kg Single dose only, not to exceed 100 mg.
ACP2 CCP	IV	4 mg/kg Slow push over 1 minute. Single dose only, not to exceed 100 mg.

Suspected, or at risk of, an acute adrenal insufficiency (adrenal crisis)

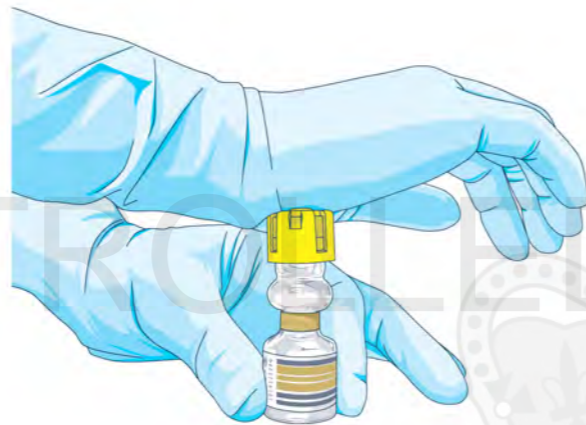
ACP2 CCP	IM	0–4 years – 25 mg 5–10 years – 50 mg > 10 years – 100 mg Single dose only.
ACP2 CCP	IV	0–4 years – 25 mg 5–10 years – 50 mg > 10 years – 100 mg Slow push over 1 minute. Single dose only.



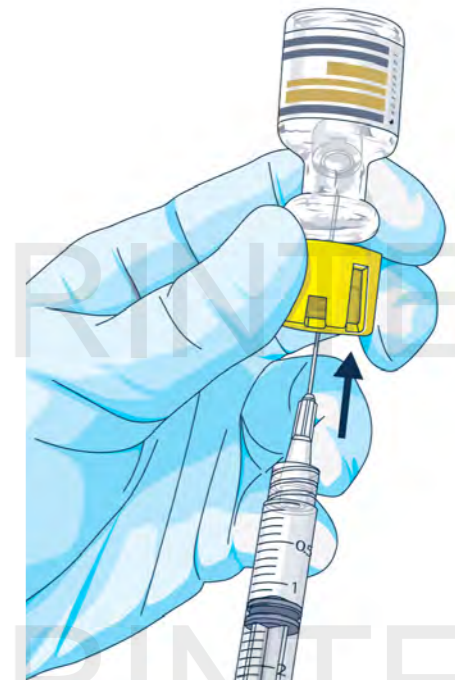
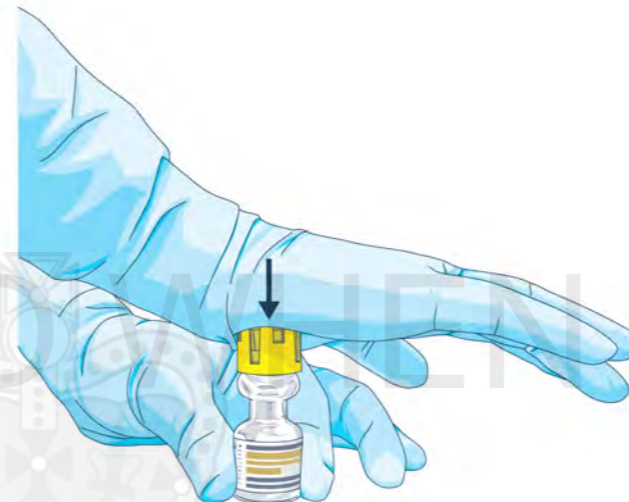
Hydrocortisone (Act-O-Vial®) – Instructions For Use



1. Gently tap the Act-O-Vial® on a firm flat surface to ensure all the powder is settled at the base of the vial away from the central stopper.



2. Hold the vial with one hand and with the other, press down firmly on the yellow cap until the liquid in the top section is released into the powder chamber.

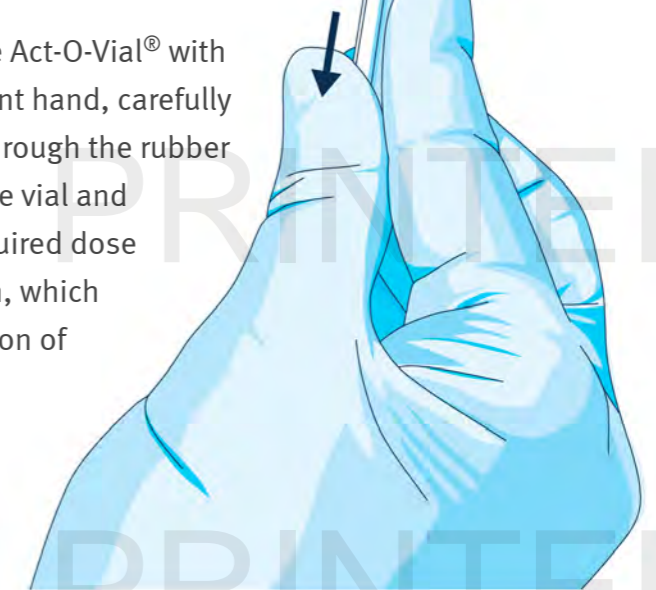


3. Gently mix by inverting the vial slowly several times until the powder is completely dissolved; **do not shake the vial**. Once dissolved, the solution should appear clear to slightly opalescent and colourless to slightly yellow; and be relatively free of bubbles.



4. Remove the central disc of the yellow cap covering the centre stopper.
5. Sterilise the top of the stopper with a 2% chlorhexidine/70% isopropyl alcohol swab and allow it to dry completely.

6. While holding the Act-O-Vial® with your non-dominant hand, carefully insert a needle through the rubber stopper, invert the vial and withdraw the required dose of the medication, which has a concentration of 100 mg/2 mL.



7. Label the syringe containing the hydrocortisone appropriately (refer to QAS Drug Management Code of Practice).