



Drug Therapy Protocols: Cefazolin

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Date	September, 2024
Purpose	To ensure a consistent procedural approach to cefazolin administration.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Cefazolin

September, 2024

Drug class

Antibiotic

Pharmacology

Cefazolin is a first generation cephalosporin antibiotic that interferes with bacterial cell wall synthesis resulting in cell lysis and death.

Metabolism

Cefazolin is excreted unchanged in the urine.

Indications ^[1-8]

- Open fractures (displacement of bone to the external environment)
- Traumatic amputations

Contraindications

- Allergy AND/OR Adverse Drug Reaction to cephalosporin antibiotics
- Known immediate OR severe hypersensitivity to penicillin OR carbapenem based drugs

Precautions

- Any allergy or hypersensitivity to penicillin or carbapenem (an isolated minor drug rash attributed to penicillin is NOT a contraindication to the use of cefazolin)

Side effects ^[1,2]

- Pain and inflammation at injection site

Presentation

- Vial (powder), 1 g *cefazolin*

Onset	Duration (IV)	Half-life
Dose/route variable	6–8 hours	1.8 hours

Schedule

- S4 (Restricted drugs).

Routes of administration

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 through the *QAS Clinical Consultation and Advice Line*.
- Heavily contaminated open fractures, severe open fractures (Gustilo-Anderson Classification 3) and those associated with farming or sewerage accidents often require additional anaerobic bacterial coverage. Inform the hospital that cefazolin has been administered, as additional antibiotics may be required.
- Open fractures that have been immersed in water often require additional bacterial coverage. In these circumstances, administration of cefazolin is authorised, with appropriate handover to the receiving facility on what has been administered.

Special notes

- Ceftriaxone is not recommended for open fractures.
- Rapid IV administration of large doses may result in seizures.
- 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

- **Open fractures** (displacement of bone to the external environment)
- **Traumatic amputations**



IV

2 g

Slow push over 5 minutes.

Single dose only.

Syringe preparation: Reconstitute 2 g of cefazolin with 19 mL of water for injection to achieve a final concentration of 2 g/20 mL. Ensure syringe is appropriately labelled.

Paediatric dosages

- **Open fractures** (displacement of bone to the external environment)
- **Traumatic amputations**

ACP2
CCP

IV

Greater than 20 kg (approx. older than 4 years)
50 mg/kg (rounded up to the nearest 5 kg)
 Slow push over 5 minutes.
Total maximum dose 2 g.
Single dose only.

Syringe preparation: Reconstitute 2 g of cefazolin with 19 mL of water for injection in a 20 mL syringe to achieve a final concentration of 100 mg/mL (2 g/20 mL). Expel any excess cefazolin not required. Ensure syringe is appropriately labelled.

Weight	Dose	Volume
> 20 – 25 kg	1.25 g	12.5 mL
> 25 – 30 kg	1.5 g	15 mL
> 30 – 35 kg	1.75 g	17.5 mL
> 35 kg	2 g	20 mL

Paediatric dosages (cont.)

- **Open fractures** (displacement of bone to the external environment)
- **Traumatic amputations**

ACP2
CCP

IV

Less than 20 kg (approx. younger than 4 years)
50 mg/kg (rounded up to the nearest 5 kg)
 Slow push over 5 minutes.
Total maximum dose 1 g.
Single dose only.

Syringe preparation: Reconstitute 1 g of cefazolin with 9.5 mL of water for injection in a 10 mL syringe to achieve a final concentration of 100 mg/mL (1 g/10 mL). Expel any excess cefazolin not required. Ensure syringe is appropriately labelled.

Weight	Dose	Volume
≤ 5 kg	250 mg	2.5 mL
> 5 – 10 kg	500 mg	5 mL
> 10 – 15 kg	750 mg	7.5 mL
> 15 – 20 kg	1 g	10 mL