



## MONOGRAPH

### Cefepime Monograph - Paediatric

Scope (Staff):	Medical, Pharmacy, Nursing
Scope (Area):	All Clinical Areas

#### Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [DISCLAIMER](#)

#### QUICKLINKS

<a href="#">Dosage/Dosage Adjustments</a>	<a href="#">Administration</a>	<a href="#">Compatibility</a>	<a href="#">Monitoring</a>
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#### DRUG CLASS

Broad spectrum cephalosporin antibiotic.<sup>(1-3)</sup>

#### INDICATIONS AND RESTRICTIONS

- Cefepime is active against most enteric Gram-negative bacilli, including *Pseudomonas aeruginosa*.<sup>(3, 4)</sup>

#### IV: Monitored (orange) antibiotic

As per indications stipulated in [Formulary One](#). For any other use, phone approval must be obtained from ChAMP before prescribing as per the [Antimicrobial Stewardship Policy](#).

#### CONTRAINDICATIONS

- Hypersensitivity to cefepime, any component of the formulation (including arginine) or a history of high-risk allergy to cephalosporins.<sup>(2, 3, 5-9)</sup>

#### PRECAUTIONS

- Cefepime may be prescribed in selected patients with high risk allergy to another Beta-lactam sub-class (e.g. some penicillins, carbapenems) in discussion with immunology.
- In patients with a previous [low risk reaction](#) to cefepime or another cephalosporin (delayed rash [>1hr after initial exposure] without mucosal or systemic involvement) the risk of subsequent reaction is low. Re-challenge may be acceptable in discussion with immunology.

- Use with caution in patients with seizure disorders or renal impairment due to increased risk of neurotoxicity.<sup>(7, 9)</sup>
- Each vial of cefepime contains L-arginine as a buffer.<sup>(2, 5)</sup>

## FORMULATIONS

Listed below are products available at PCH, other formulations may be available, check with pharmacy if required:

- 2 gram powder for injection vial

Imprest location: [Formulary One](#)

## DOSAGE & DOSAGE ADJUSTMENTS

**Neonates:** [Refer to Neonatal Medication Protocols](#)

**IV/IM: Children (>4 weeks to 18 years):**

**Usual dose:** 50 mg/kg/dose (to a maximum of 2 grams) 8 hourly.<sup>(1-3, 8, 9)</sup>

***Dosing for Hospital in the Home (HiTH) – Baxter Elastomeric devices:***

**Usual dose:** 150 mg/kg/DAY (to a maximum of 6 grams) infused over 24 hours. Doses must be rounded to the nearest 100 mg.

Minimum dose possible: 120 mg/24 hours.<sup>(10)</sup>

**Dosing in Overweight and Obese Children:** Dose based on measured body weight.<sup>(11)</sup>

**Renal impairment:**

- [eGFR calculator](#)

eGFR	Recommended dose <sup>(7, 9)</sup>
≥ 60 mL/minute/1.73m <sup>2</sup>	Normal dose
≥30 to < 60 mL/minute/1.73m <sup>2</sup>	50 mg/kg/dose (to a maximum of 2 grams) given 12 hourly
≥10 to < 30 mL/minute/1.73m <sup>2</sup>	50 mg/kg/dose (to a maximum of 2 grams) given 24 hourly
<10 mL/minute/1.73m <sup>2</sup>	25 to 50 mg/kg/dose (to a maximum of 1 gram) given 24 hourly

**Hepatic impairment:**

- No dosage adjustments are required in hepatic impairment.<sup>(2, 7, 9)</sup>

**RECONSTITUTION & ADMINISTRATION****IV reconstitution:**

- Reconstitute each vial with the exact volume of compatible fluid in the table below to give a 100 mg/mL solution.<sup>(5)</sup>

Vial size	Powder volume	Reconstitution volume	Final concentration <sup>(5)</sup>
1 gram	1.3 mL	8.7 mL	100 mg/mL
2 grams	2.6 mL	17.4 mL	100 mg/mL

**IV infusion:**

- Dilute with compatible fluid to a final concentration of 40 mg/mL or less and infuse over 30 minutes.<sup>(5, 6, 9)</sup>
- Cefepime may also be given as an extended infusion over 3 hours in critically unwell patients.<sup>(5, 9)</sup>

**IV push:**

- Reconstitute to a concentration of 100 mg/mL and give slowly over 3 to 5 minutes.<sup>(5, 9)</sup>

**Continuous infusion:**

May be given over 24 hours by continuous (Baxter elastomeric device) infusion. Possible dose range is 120 mg to a maximum of 6 grams over 24 hours. Refer to [dosing](#) section above.

**IM reconstitution:**

- Intravenous is the preferred method of administration for cefepime, especially in the treatment of severe infections.<sup>(2, 6)</sup>
- Reconstitute each vial with the exact volume of water for injection or lidocaine 1% (10 mg/mL) in the table below for intramuscular injection only.<sup>(5)</sup>

Vial size	Reconstitution volume <sup>(12)</sup>	Final concentration
2 grams	6.1 mL	230 mg/mL

**IM injection:**

- Doses up to 1 gram may be injected into a large muscle mass (ventrogluteal site preferred).<sup>(5)</sup> Refer to the [Intramuscular Injections Guideline](#) for advice on maximum recommended injection volumes for different aged children.

**COMPATIBILITY (LIST IS NOT EXHAUSTIVE)****Compatible fluids:**

- Glucose 5%
- Glucose/sodium chloride combinations
- Sodium chloride 0.9%<sup>(5)</sup>

**Compatible at Y-site:**

[Compatibilities of IV drugs](#) must be checked when two or more drugs are given concurrently.

**MONITORING**

- Renal and haematological function should be monitored weekly with prolonged therapy (i.e. longer than 7 days) or high dose treatment.<sup>(3, 7)</sup>

**ADVERSE EFFECTS**

**Common:** diarrhoea, nausea, vomiting, abdominal pain, anaemia, pain and inflammation at injection site, rash, headache, dizziness and *Clostridioides difficile*-associated disease.<sup>(3, 6)</sup>

**Infrequent:** anaphylaxis, angioedema.<sup>(6)</sup>

**Rare:** neurotoxicity (e.g. confusion, seizures, encephalopathy) increased in high dose and/or renal impairment, constipation, vasodilation, altered taste, paraesthesia, dyspnoea, blood dyscrasias (e.g. neutropenia), thrombocytopenia, bleeding and renal impairment. Immunological reactions (including eosinophilia, drug fever, urticaria, haemolytic anaemia, Stevens-Johnson syndrome, toxic epidermal necrolysis, severe cutaneous adverse reactions (SCARs), interstitial nephritis, arthritis, serum sickness-like syndrome).<sup>(3, 6)</sup>

**STORAGE**

- Store vials below 25°C and protect from light.<sup>(2, 5, 7, 9)</sup>
- Store syringes prepared by Pharmacy Compounding Service (PCS) between 2 and 8°C and protect from light.<sup>(2, 5, 7, 9)</sup>

**INTERACTIONS**

This medication may interact with other medications; consult PCH approved references (e.g. [Clinical Pharmacology](#)), a clinical pharmacist or PCH Medicines Information Service on extension 63546 for more information.

*\*\*Please note: The information contained in this guideline is to assist with the preparation and administration of **cefepime**. Any variations to the doses recommended should be clarified with the prescriber prior to administration\*\**

**Related CAHS internal policies, procedures and guidelines**

[Antimicrobial Stewardship Policy](#)

[ChAMP Empiric Guidelines and Monographs](#)





[KEMH Neonatal Medication Protocols](#)

[Identification and Management of Children with Cancer and Low Risk Febrile Neutropenia](#)

## References

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