MONOGRAPH

Cefuroxime 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

Dosage/Dosage Adjustments	Administration	Compatibility	Monitoring

DRUG CLASS

Moderate spectrum (2nd generation) cephalosporin.[1, 2]

INDICATIONS AND RESTRICTIONS

Cefuroxime liquid is a **Special Access Scheme product**. SAS application(s) must be completed in accordance with TGA regulations. Cefuroxime tablets are TGA registered and available on Formulary.

Cefuroxime is used in ear, nose and throat infections and respiratory tract infections in patients with a low risk penicillin allergy.[3]

Oral: Monitored (orange) antibiotic

- If the use is consistent with a standard approved indication, this must be communicated to ChAMP by documenting that indication on all prescriptions (inpatient and outpatient).
- The ChAMP team will review if ongoing therapy is required and/or if the order does not meet ChAMP Standard Indications
- If use is not for a standard approved indication, phone approval must be obtained from ChAMP before prescribing.

CONTRAINDICATIONS

- Hypersensitivity to cefuroxime, a history of high risk allergy to cephalosporins or any component of the formulation. Cefuroxime 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.[2-6]
- In patients with a previous low risk reaction to cefuroxime or another cephalosporin (delayed rash [>1 hr after initial exposure] without mucosal or systemic involvement) the risk of subsequent reaction is low. Oral challenge may be acceptable in discussion with Immunology.

PRECAUTIONS

- Phenylketonuria - oral liquid contains aspartame.[3, 5]

FORMULATIONS

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

- 125 mg/5 mL oral suspension for reconstitution (Special Access Scheme product)
- 250 mg tablet

Imprest location: Formulary One

DOSAGE & DOSAGE ADJUSTMENTS

Neonates and infants < 3months: Not routinely used in neonates and infants <3 months old. Consider an alternative antibiotic.[7]

The bioavailability of the tablets is greater than the suspension formulation.[5]

Oral:

Child ≥ 3 months: 15 mg/kg/dose (to a maximum of 500 mg) twice daily.[1, 5]

For suggested dose bands see below: [8, 9]

Weight	**Suggested dose bands for tablets**	**Number of 250 mg tablets**
< 7.5 kg and ≥ 3 months of age	15 mg/kg/dose given twice daily using suspension formulation	Not applicable
≥ 7.5 kg to < 10 kg	125 mg twice daily	Half a 250 mg tablet
≥ 10 kg to < 15 kg	187.5 mg twice daily	Three quarters of a 250 mg tablet
≥ 15 kg to < 21 kg	250 mg twice daily	One 250 mg tablet
≥ 21 kg to < 30 kg	375 mg twice daily	One and a half of the 250 mg tablets
≥ 30 kg	500 mg twice daily	Two 250 mg tablets

Dosing in Overweight and Obese Children: Dose on measured body weight.[10]

Renal impairment:

- eGFR calculator
- Dosage adjustment may be required in cases of impaired renal function (with creatinine clearance of less than 10 mL/min).
- The doses below are for oral therapy only.
- eGFR >10 mL/minute/1.73m^2: normal dose[6]
- eGFR ≤ 10 mL/minute/1.73m^2: 15mg/kg/dose (to a maximum of 500mg) given 24 hourly.[6]

Renal impairment increases the risk of neurotoxicity and neutropenia.[3]

Hepatic impairment:

- There are no specific recommendations regarding the use of cefuroxime in hepatic impairment, it appears that dose adjustment is not necessary.[6]

RECONSTITUTION & ADMINISTRATION

Oral suspension - reconstitution:

- The Australian registered suspension was discontinued. Refer to individual product information for the replacement Special Access Scheme product if the liquid is required.

Administration:

- Cefuroxime is best taken with a light meal to increase absorption.[3, 5, 6]
- Tablets are best swallowed whole as they have a bitter taste. If unable to swallow the tablets, they may be crushed and mixed with food (e.g. a spoonful of yoghurt)[6, 11]
- The tablets are not scored, if part doses are required, a tablet cutter should be used to portion the tablets.

MONITORING

- Renal, hepatic and haematological function should be monitored weekly with prolonged therapy (courses longer than 10 days).[3, 5]

ADVERSE EFFECTS

Common: Eosinophilia, thrombocytopenia, leucopenia, neutropenia, diarrhoea, nausea, vomiting, rash, dizziness, abdominal discomfort, headache, allergic reactions (including rashes, fever, arthralgia).[3-6]

Infrequent: elevated liver enzymes, anaphylaxis, angioedema[4]

Rare: Severe cutaneous adverse reactions (SCARs), renal impairment, arthritis, interstitial nephritis, transient hepatitis, haemolytic anaemia, serum sickness[3-6]

STORAGE

- **Tablets:** Store below 25°C.[2]
- **Suspension:** Refer to individual product information.

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 **cefuroxime.** 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

References

1. Antibiotic Writing Group. Therapeutic Guidelines - Antibiotic. West Melbourne: Therapeutic Guidelines Ltd; 2022. Available from: https://tgldcdp-tg-org-au.pklibresources.health.wa.gov.au/etgAccess.
2. MIMS Australia. MIMS online [full product information]. St Leonards, N.S.W: CMP Medica Australia.; 2022 [cited 2023 21st Mar].
3. Australian Medicines Handbook. Adelaide, S. Aust.: Australian Medicines Handbook; 2022 [cited 2023 2nd May]. Available from: https://amhonline-amh-net-au.pklibresources.health.wa.gov.au/.
4. Paediatric Formulary Committee. BNF for Children: 2022. London: BMJ Group Pharmaceutical Press; 2022.
5. Clinical Pharmacology powered by ClinicalKey [Internet]. Elsvier. 2023 [cited 2023 June 20th]. Available from: https://www-clinicalkey-com.pklibresources.health.wa.gov.au/pharmacology/.
6. Up To Date - Paediatric Drug information [Internet]. Lexicomp. 2022 [cited 2023 May 29th]. Available from: https://www-uptodate-com.pklibresources.health.wa.gov.au/contents/table-of-contents/drug-information/pediatric-drug-information.
7. Electronic Medicines Compendium (emc). Surrey: DataPharm Ltd; 2023.
8. Rashed AN, Tomlin S. Establishing dose bands for commonly prescribed oral medications for children in the UK: Results of a Delphi study. British Journal of Clinical Pharmacology. 2021;87(7):2879-90.
9. Expert Opinion. Infectious Diseases.
10. Kendrick JG, Carr RR, Ensom MH. Pediatric Obesity: Pharmacokinetics and Implications for Drug Dosing. Clin Ther. 2015;37(9):1897-923.
11. Symons K, Emer J (editors). Australian Don't Rush to Crush Handboook. 4th edition ed. Collingwood: The Society of Hospital Pharmacists of Australia; 2021.

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