# Children's Antimicrobial Management Program (ChAMP)

#### 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					
<u>Dosage/Dosage</u> <u>Adjustments</u>	<u>Administration</u>	Compatibility	Monitoring		

# **DRUG CLASS**

Moderate spectrum (2<sup>nd</sup> generation) cephalosporin. (1, 2)

#### INDICATIONS AND RESTRICTIONS

Cefuroxime liquid is a \*\*Special Access Scheme product\*\*. <u>SAS application(s)</u> must be completed in accordance with <u>TGA regulations</u>. 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 <u>high risk allergy</u> to cephalosporins or any component of the formulation. Cefuroxime may be prescribed in selected patients with highrisk allergy to another Beta-lactam sub-class (e.g. some penicillins, carbapenems) in discussion with Immunology. (2-6)
- In patients with a previous <u>low risk reaction</u> 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.<sup>(7)</sup>

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 <u>250 mg</u> 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<sup>2</sup>: normal dose<sup>(6)</sup>
- eGFR ≤ 10 mL/minute/1.73m<sup>2</sup>: 15mg/kg/dose (to a maximum of 500mg) given 24 hourly.<sup>(6)</sup>

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)<sup>(6, 11)</sup>
- 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).<sup>(3, 5)</sup>

# **ADVERSE EFFECTS**

**Common:** Eosinophilia, thrombocytopenia, leucopenia, neutropenia, diarrhoea, nausea, vomiting, rash, dizziness, abdominal discomfort, headache, allergic reactions (including rashes, fever, arthralgia).<sup>(3-6)</sup>

**Infrequent:** elevated liver enzymes, anaphylaxis, angioedema<sup>(4)</sup>

**Rare:** Severe cutaneous adverse reactions (SCARs), renal impairment, arthritis, interstitial nephritis, transient hepatitis, haemolytic anaemia, serum sickness<sup>(3-6)</sup>

#### **STORAGE**

Tablets: Store below 25°C.<sup>(2)</sup>

• **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.

# Related CAHS internal policies, procedures and guidelines

Antimicrobial Stewardship Policy

ChAMP Empiric Guidelines and Monographs

**KEMH Neonatal Medication Protocols** 

#### References

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- 3. Australian Medicines Handbook. Adelaide, S. Aust.: Australian Medicines Handbook; 2022 [cited 2023 2nd May]. Available from: <a href="https://amhonline-amh-net-au.pklibresources.health.wa.gov.au/">https://amhonline-amh-net-au.pklibresources.health.wa.gov.au/</a>.
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- 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.
- Expert Opinion, Infectious Diseases.
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- 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.

<sup>\*\*</sup>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\*\*

Equity

Respect

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Collaboration Accountability

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Compassion