Cefalexin (Cephalexin) Monograph - Paediatric

| Scope (Staff): | Medical, Nursing, Pharmacy |
| Scope (Area): | PCH |

This document should be read in conjunction with this DISCLAIMER

**DESCRIPTION**
- Cefalexin is a bactericidal, first generation, moderate spectrum cephalosporin.
- It interferes with bacterial cell wall peptidoglycan synthesis by binding to penicillin-binding proteins resulting in cell lysis.\(^1\-^3\)
- Cefalexin is active against some streptococci and staphylococci and is also active against certain Gram-negative bacteria including *Escherichia coli* and most *Klebsiella* species.\(^3\)

**INDICATIONS AND RESTRICTIONS**
Oral: Unrestricted (green) antibiotic
- This is not a restricted agent. Follow standard ChAMP guidelines where appropriate.

**CONTRAINDICATIONS**
- Cefalexin is contraindicated in patients with history of severe allergy to cephalosporins.
- Care should also be taken with penicillins and carbapenems as cross reactivity may occur between penicillins, cephalosporins and carbapenems.\(^1, 2, 4, 6, 7, 9\)

**PRECAUTIONS**
Nil.

**FORMULATIONS**
Available at PCH:
- 250mg/5mL powder for oral suspension (Sandoz)
- 250mg and 500mg capsules (Sandoz)

Other formulations:
- 125mg/5mL and 250mg/5mL powder for oral suspension (multiple generic brands available)
- 250mg and 500mg capsules (multiple generic brands available)

**DOSAGE**
- The doses listed below fall within the standard range.
- Higher doses may be prescribed for certain situations in consultation with an infectious diseases or clinical
**Neonates (<1 month of age):**
- Please refer to neonatal clinical care drug protocols

**Oral:**
- **Usual dose:** 12.5mg/kg/dose (to a maximum of 1 gram) every 6 hours.\(^{(2)}\)
- To facilitate adherence, the total daily dose can be divided and given 8 hourly.\(^{(1)}\)
- **Severe infections:** 25mg/kg/dose (to a maximum of 1.5 grams) 6 hourly.\(^{(4)}\)
- **UTI prophylaxis:** 12.5mg/kg/dose (to a maximum of 250mg) given once daily at night.\(^{(2-5)}\)

<table>
<thead>
<tr>
<th>DOSAGE ADJUSTMENT</th>
<th>Dosage adjustment required in renal impairment:</th>
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<tbody>
<tr>
<td></td>
<td>Dosage adjustment may be required in cases of impaired renal function (with creatinine clearance of less than 50mL/min).(^{(6)})</td>
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<tr>
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<td>To calculate the estimated glomerular filtration rate (eGFR) use the following formula:</td>
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|                   | \[
|                   | eGFR (mL/min/1.73m\(^2\)) = \frac{36.5 \times \text{height (in cm)}}{\text{Serum creatinine (micromol/L)}}  
|                   | \] |
|                   | CrCl ≥50mL/minute: normal dose |
|                   | CrCl ≥30 to <50mL/minute: 10mg/kg/dose given 8 hourly |
|                   | CrCl ≥10 to <30mL/minute: 10mg/kg/dose given 12 hourly |
|                   | CrCl <10mL/minute: 10mg/kg/dose given 24 hourly.\(^{(6)}\) |
|                   | For severe infections, higher doses may be required, contact pharmacy for advice. |

<table>
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<tr>
<th>RECONSTITUTION</th>
<th>Oral Cefalexin Sandoz® 250mg/5mL:</th>
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<tbody>
<tr>
<td></td>
<td>Reconstitute with 63mL of water as follows: tap bottle until all powder flows freely; add approximately half the total volume of water for reconstitution and shake vigorously to suspend powder.</td>
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<td>Add remainder of the water and again shake vigorously. Store reconstituted suspension in the refrigerator and discard after 14 days.</td>
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<td>Refer to product packaging for reconstitution instructions for alternative brands.</td>
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</table>
**ADMINISTRATION**

**Oral:**
- When using the oral suspension, shake the bottle well before measuring each dose.\(^{(7)}\)
- Cefalexin may be given without regard to food intake.\(^{(1)}\)

**MONITORING**

- Renal, hepatic and haematological function should be monitored weekly with prolonged therapy (i.e. longer than 7 days).\(^{(1, 2, 8, 9)}\)

**ADVERSE EFFECTS**

- **Common:** generally very well tolerated
- **Rare:** diarrhea, nausea, vomiting, abdominal pain, urticaria, rash, headache, dyspepsia, dizziness, *Clostridium difficile*-associated disease, cholestatic hepatitis, neurotoxicity (eg confusion, seizures, encephalopathy), blood dyscrasias, allergy, bleeding, rash, erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis, arthritis, interstitial nephritis.\(^{(1, 2, 4, 7)}\)

**COMPATIBLE FLUIDS**

- Not applicable

**STORAGE**

- Store the capsules below 25˚C
- Store the unreconstituted powder below 30˚C, after reconstituting, store in the refrigerator between 2 and 8 ˚C and discard after 14 days.\(^{(7)}\)

**INTERACTIONS**

- Cefalexin has few drug interactions; please consult PCH approved references, your ward pharmacist or Pharmacy on 6456 0190 (Option 1) for more information
- Probenecid inhibits excretion of cephalosporins which may increase cefalexin levels and increase the risk of seizures in certain patients.\(^{(1, 7)}\)
- Cefalexin may affect the clotting process and increase the effect of anticoagulants (e.g. warfarin), close monitoring is required.\(^{(1, 6)}\)

**COMMENTS**

- **Note:** Some texts recommend a lower standard dose of cefalexin.
- At PCH doses <12.5mg/kg/dose are rarely given except for dose adjustment in renal failure.

**MANUFACTURER SAFETY DATA SHEET (SDS)**

To access to the Manufacturer SDS for this product, use the following link to [ChemAlert](#).

**Please note:** The information contained in this guideline is to assist with the preparation and administration of cefalexin. Any variations to the doses recommended should be clarified with the prescriber prior to administration**
Related internal policies, procedures and guidelines

- [Antimicrobial Stewardship Policy](Medication Management Manual)
- [ChAMP Empiric Guidelines](ChAMP Manual)

References

9. Micromedex 2.0 [Internet]. Truven Health Analytics. 2015 [cited 17/02/2016].

Useful resources (including related forms)

- [Neonatal Clinical Care Unit Medication Protocols](KEMH)
- [ChAMP Guidelines]
This document can be made available in alternative formats on request for a person with a disability.