GUIDELINE

Eye Infections: Paediatric Empiric Guidelines

Scope (Staff):	Clinical Staff – Medical, Nursing, Pharmacy
Scope (Area):	Perth Children's Hospital (PCH)

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

- For additional advice, refer to the following Emergency department guidelines:
  - Eye examination (PIC)
  - Eye Injury – Acute (PIC)
  - Cellulitis periorbital and orbital

CLINICAL SCENARIO		Usual duration	DRUGS/DOSES			
			Standard Protocol	Known or Suspected MRSA[a]	Low Risk Penicillin allergy[b]	High Risk Penicillin allergy[b]
Periorbital (pre-septal) Cellulitis < 3 months old	Periorbital (pre-septal) cellulitis **OR** Orbital (post septal) cellulitis < 3 months old	Discuss with ID	IV cefotaxime 50 mg/kg/dose (to a maximum of 2 grams) 8 hourly (for patients < 4 weeks chronological age, dose as per Neonatal Guidelines)	**ADD** vancomycin[c] (for patients < 4 weeks old dose as per Neonatal Guidelines)	As per standard protocol	Discuss with Infectious Diseases
			All patients should be tested for Gonorrhoea and Chlamydia. Consider switch to oral therapy when patient is improving based on available microbiological results or if no microbiological results available, discuss with Infectious Diseases.			

<table>
<tr><th colspan="2" rowspan="2">CLINICAL SCENARIO</th><th rowspan="2">Usual duration</th><th colspan="4">DRUGS/DOSES</th></tr>
<tr><th>Standard Protocol</th><th>Known or Suspected MRSA[a]</th><th>Low Risk Penicillin allergy[b]</th><th>High Risk Penicillin allergy[b]</th></tr>
<tr><td rowspan="6">Periorbital (pre-septal) Cellulitis ≥ 3 months old</td><td rowspan="2">Periorbital (pre-septal) cellulitis ≥ 3 months old Systemically well

No sinusitis</td><td rowspan="2">7 days</td><td>Oral cefalexin 20 mg/kg/dose (to a maximum of 750 mg) 8 hourly
OR
Oral flucloxacillin 12.5 mg/kg/dose (to a maximum of 500 mg) 6 hourly</td><td>cotrimoxazole[d]</td><td>cefalexin[e]</td><td>cotrimoxazole[d]
OR
clindamycin[f]</td></tr>
<tr><td colspan="4">Patients should be reviewed at 48 hours of therapy to ensure they are clinically improving. If not improving, consider change to IV therapy as per ‘periorbital (pre-septal) cellulitis – systemically unwell’
Course of antibiotics may need to be extended if not completely resolved at 7 days of therapy.</td></tr>
<tr><td rowspan="2">Periorbital (pre-septal) cellulitis ≥ 3 months old Systemically well

WITH sinusitis</td><td rowspan="2">7 days</td><td>Oral amoxicillin/clavulanic acid 25 mg/kg/dose (to a maximum of 875 mg amoxicillin component)
12 hourly</td><td>ADD
cotrimoxazole[d]
to standard protocol</td><td>cefuroxime[g]
OR
consider amoxicillin/ clavulanic acid challenge in discussion with immunology</td><td>cotrimoxazole[d]</td></tr>
<tr><td colspan="4">Patients should be reviewed at 48 hours of therapy to ensure they are clinically improving. If not improving, consider change to IV therapy as per ‘Orbital (post septal) cellulitis (≥ 3 months old)’
Course of antibiotics may need to be extended if not completely resolved at 7 days of therapy.</td></tr>
<tr><td>Periorbital (pre-septal) cellulitis ≥ 3 months old Systemically unwell</td><td>7 days (IV and oral)</td><td>IV cefazolin 50 mg/kg/dose (to a maximum of 2 grams) 8 hourly
OR
IV flucloxacillin 50 mg/kg/dose (to a maximum of 2 grams) 6 hourly</td><td>ADD
vancomycin[c]
to standard protocol</td><td>cefazolin[h]</td><td>vancomycin[c]</td></tr>
<tr><td colspan="5">Patients should be reviewed at 48 hours of therapy to ensure they are clinically improving.
When clinically, consider oral switch as per “Periorbital (pre-septal) cellulitis ≥ 3 months old Systemically well”</td></tr>
</table>

<table>
<tr><th colspan="2" rowspan="2">CLINICAL SCENARIO</th><th rowspan="2">Usual duration</th><th colspan="4">DRUGS/DOSES</th></tr>
<tr><th>Standard Protocol</th><th>Known or Suspected MRSA[a]</th><th>Low Risk Penicillin allergy[b]</th><th>High Risk Penicillin allergy[b]</th></tr>
<tr><td rowspan="2">Orbital (post septal) cellulitis (≥ 3 months old</td><td>Orbital (post septal) cellulitis (≥ 3 months old)</td><td>Total 10-14 days (IV and oral)</td><td>IV ceftriaxone 50 mg/kg/dose (to a maximum of 2 grams) 12 hourly
AND
IF concurrent sinusitis ADD
IV metronidazole 12.5 mg/kg/dose (to a maximum of 500 mg) 8 hourly</td><td>ADD
IV vancomycin to standard protocol
IF concurrent sinusitis ADD
IV metronidazole[j]</td><td>As per standard protocol</td><td>ciprofloxacin[i]
AND
vancomycin[c]
IF concurrent sinusitis ADD
IV metronidazole[j]</td></tr>
<tr><td colspan="4">Antibiotics alone are not definitive management. Immediate referral to appropriate specialist surgical services is essential.
For empiric oral switch therapy, see ‘Periorbital (pre-septal) cellulitis ≥ 3 months old, systemically well, WITH sinusitis’
If any concern for an intra-cranial extension – discuss with Infectious Diseases</td></tr>
<tr><td rowspan="3">Penetrating eye injury</td><td rowspan="3">Penetrating eye injury (including open globe rupture or laceration) and / or exogenous endophthalmitis</td><td rowspan="3">5 days</td><td colspan="4">Oral moxifloxacin 10 mg/kg/dose (to a maximum of 400 mg) once daily.</td></tr>
<tr><td colspan="4">Antibiotics alone are not definitive management.
Immediate referral to appropriate specialist surgical services is essential.

Refer to Eye Injury – Acute (PIC)

Tetanus immunisation history needs to be reviewed depending on the nature of the wound. Consider the need for tetanus prophylaxis as per Tetanus prone wounds

Intravitreal antibiotics or antifungals may be required in addition to systemic therapy</td></tr>
<tr><td colspan="3">ceftazidime 2.25 mg/0.1 mL via intravitreal injection
AND
vancomycin 1 mg/0.1 mL via intravitreal injection
IF fungal infection is suspected ADD
voriconazole 0.05 mg/0.1 mL via intravitreal injection</td><td>Discuss with Infectious Diseases</td></tr>
</table>

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<tr><th colspan="2" rowspan="2">CLINICAL SCENARIO</th><th rowspan="2">Usual duration</th><th colspan="4">DRUGS/DOSES</th></tr>
<tr><th>Standard Protocol</th><th>Known or Suspected MRSA[a]</th><th>Low Risk Penicillin allergy[b]</th><th>High Risk Penicillin allergy[b]</th></tr>
<tr><td rowspan="3">Endophthalmitis</td><td rowspan="3">Endogenous endophthalmitis</td><td rowspan="3">Total 7 days (IV and oral)</td><td>IV ceftazidime 50 mg/kg/dose (to a maximum of 2 grams) 8 hourly
AND
IV vancomycin 15 mg/kg/dose (to a maximum initial dose of 750mg) 6 hourly</td><td colspan="2">As per standard protocol.</td><td>Discuss with Infectious Diseases</td></tr>
<tr><td colspan="4">Antibiotics alone are not definitive management.
Immediate referral to appropriate specialist surgical services is essential.

Intravitreal antibiotics or antifungals may be required in addition to systemic therapy.</td></tr>
<tr><td colspan="3">ceftazidime 2.25 mg/0.1 mL via intravitreal injection
AND
vancomycin 1 mg/0.1 mL via intravitreal injection
IF fungal infection is suspected ADD
voriconazole 0.05 mg/0.1 mL via intravitreal injection</td><td>Discuss with Infectious Diseases</td></tr>
<tr><td rowspan="3">Other</td><td>Conjunctivitis</td><td>Up to 7 days</td><td colspan="4">Most cases of conjunctivitis are caused by a viral infection and do not require antibiotic therapy.

Topical chloramphenicol 0.5% eye drops; instil one to two (1-2) drops into the affected eye(s) every two (2) hours on day one (1), then reduce to four (4) times daily until discharge resolves.

In children < 2 months old conjunctival swab should be sent to test for Chlamydia trachomatis and Neisseria gonorrhoeae</td></tr>
<tr><td>Bacterial keratitis</td><td>varies</td><td colspan="4">Topical ofloxacin 0.3% eye drops – prescribe in conjunction with ophthalmology as frequency of dose varies depending on severity of infection and response.</td></tr>
<tr><td>Dacryocystitis (no systemic features)</td><td>5 days</td><td>Oral cefalexin 20 mg/kg/dose (to a maximum of 750 mg) 8 hourly.</td><td>cotrimoxazole[d]</td><td>As per standard protocol</td><td>cotrimoxazole[d]</td></tr>
</table>

a. Children known or suspected to be colonised with MRSA may need to have their therapy/prophylaxis modified. Children suspected of having MRSA include:

   i. Children previously colonised with MRSA
   ii. Household contacts of MRSA colonised individuals
   iii. In children who reside in regions with higher MRSA rates (e.g. Kimberley, Pilbara and Goldfields) a lower threshold for suspected MRSA should be given
   iv. Children with recurrent skin infections or those unresponsive to ≥ 48 of beta-lactam therapy. For further advice, discuss with Microbiology or ID service

b. Refer to the ChAMP Beta-lactam Allergy Guideline:

- **Low risk allergy:** a delayed rash (>1hr after initial exposure) without mucosal or systemic involvement (without respiratory distress and/or cardiovascular compromise).
- **High risk allergy:** an immediate rash (<1hr after exposure); anaphylaxis; severe cutaneous adverse reaction {e.g. Drug Rash with Eosinophilia and Systemic Symptoms

(DRESS) and Stevens – Johnson syndrome (SJS) / Toxic Epidermal Necrolysis (TEN)} or other severe systemic reaction.

c. IV vancomycin 15 mg/kg/dose (to a maximum initial dose of 750 mg) 6 hourly. Therapeutic drug monitoring is required.

d. Oral cotrimoxazole 4 mg/kg/dose (to a maximum of 160 mg trimethoprim component) 12 hourly; equivalent to 0.5 mL/kg/dose of oral suspension

e. Oral cefalexin 20 mg/kg/dose (to a maximum of 750 mg) 8 hourly.

f. Oral clindamycin 10 mg/kg/dose (to a maximum of 450 mg) 8 hourly

g. Oral cefuroxime: Child ≥ 3 months: 15 mg/kg/dose (to a maximum of 500 mg) twice daily

h. IV cefazolin 50 mg/kg/dose (to a maximum of 2 grams) 8 hourly.

i. IV ciprofloxacin 10-15 mg/kg/dose (to a maximum of 400 mg) 12 hourly. ChAMP approval required.

j. IV metronidazole 12.5 mg/kg/dose (to a maximum of 500 mg) 8 hourly.

Related CAHS internal policies, procedures and guidelines
Antimicrobial Stewardship Policy
ChAMP Empiric Guidelines and Monographs
Eye Injury – Acute (PIC)
Eye Examination (PIC)
Cellulitis periorbital and orbital

References and related external legislation, policies, and guidelines

1. Antibiotic Writing Group (2025). Therapeutic Guidelines - Antibiotic. West Melbourne, Therapeutic Guidelines Ltd.

This document can be made available in alternative formats on request.

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