GUIDELINE

Medical Prophylaxis

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

- This guideline should only be used in consultation with Infectious Diseases (ID) and/or Clinical Microbiology. For any staff or family contacts, each prescription should be endorsed with "Contact prophylaxis" and requires a unique medical record number (UMRN) to be included on the prescription. Without a UMRN, PCH Pharmacy is unable to process the prescription.
- Many of the infections covered in the guideline below are vaccine preventable. Please consider immunisation history and offer catch-up vaccination if appropriate. For further information regarding immunisation please refer to the PCH Immunisation Service site.
- For information regarding community exposure to blood and bodily fluids, refer to the ChAMP guideline: Post exposure prophylaxis following non-occupational exposure to body fluids (nPEP)

CLINICAL SCENARIO		DRUGS/DOSES
		Standard Protocol For patients with a beta-lactam allergy, refer to ChAMP Beta-lactam Allergy Guideline[a]
Post exposure prophylaxis	*Neisseria meningitidis* (Meningococcus infections)	All suspected meningococcal cases must be notified urgently via phone to the relevant Public Health Unit. Notification must also be made to the Communicable Disease Control Directorate (CDCD) via the communicable disease notification for metropolitan residents or regional residents. Prophylaxis of immediate / household contacts should commence without delay. Refer to: Communicable Diseases Network Australia: Invasive Meningococcal Disease for further information. Oral rifampicin: **Neonate < 4 weeks**: 5 mg/kg/dose 12 hourly for 2 days **Child ≥ 4 weeks:** 10 mg/kg/dose (max 600 mg) 12 hourly for 2 days **OR** Oral ciprofloxacin as a single dose **Child ≥ 4 weeks to < 5 years:** 125 mg as a single dose **Child ≥ 5 years to < 12 years:** 250 mg as a single dose **Child ≥ 12 years:** 500 mg as a single dose **OR** IM ceftriaxone as a single dose Ceftriaxone not recommended if any history of high-risk penicillin allergy. **Child ≥ 4 weeks to < 12 years:** 125 mg as a single dose **Child ≥ 12 years and adults:** 250 mg as a single dose IM ceftriaxone is the agent of choice for any pregnant contacts. In unimmunised contacts, meningococcal vaccination for serotypes A, C, W and Y (Men ACWY) should be offered. All cases of staff exposure must be discussed with CAHS Staff Health service.

CLINICAL SCENARIO		DRUGS/DOSES
		Standard Protocol For patients with a beta-lactam allergy, refer to ChAMP Beta-lactam Allergy Guideline[a]
Post exposure prophylaxis	*Haemophilus influenzae* type B (Hib)	All suspected or confirmed *Haemophilus influenzae* type B (Hib) cases must be notified urgently via phone to the relevant Public Health Unit. Notification must also be made to the Communicable Disease Control Directorate (CDCD) via the communicable disease notification for metropolitan residents or regional residents. Refer to: Communicable Diseases Network Australia: Haemophilus influenza type b invasive infection for further information. Oral rifampicin: **Neonate < 4 weeks:** 10 mg/kg/dose once daily for four days **Child ≥ 4 weeks:** 20 mg/kg/dose (to a maximum of 600 mg) once daily for four days **OR** IM ceftriaxone Ceftriaxone not recommended if any history of high-risk penicillin allergy. **Child ≥ 4 weeks:** 50 mg/kg/dose (to a maximum of 1 gram) once daily for two days
	Pertussis	Notification to the Communicable Disease Control Directorate (CDCD) is completed by the testing laboratory. Refer to the Communicable Diseases Network Australia: Pertussis for further information on specific prophylaxis indications. Oral azithromycin: **Child < 6 months old:** 10 mg/kg/dose (to a maximum of 500 mg) once daily for five days **Child ≥ 6 months old:** 10 mg/kg/dose (to a maximum of 500 mg) on day one, then 5 mg/kg/dose (to a maximum of 250 mg) once daily for four days

CLINICAL SCENARIO		DRUGS/DOSES **Standard Protocol** For patients with a beta-lactam allergy, refer to ChAMP Beta-lactam Allergy Guideline[a]
Post exposure prophylaxis	Influenza	Notification to the Communicable Disease Control Directorate (CDCD) is completed by the testing laboratory. Consider influenza prophylaxis in those patients at high risk **and** < 48 hours after exposure including: - Patients with heart disease - Patients with Down syndrome - Patients with Obesity - Chronic respiratory patients - Patients with severe neurological conditions - Immunocompromised patients - Patients with chronic illness - Children < 5 years - Aboriginal and Torres Strait Islander people of any age Oral oseltamivir: **Child ≥ 4 weeks to < 12 months:** 3 mg/kg/dose once daily for ten days **Child ≥ 1 year and 10-15kg:** 30 mg once daily for ten days **Child ≥ 1 year and 15-23kg:** 45 mg once daily for ten days **Child ≥ 1 year and 23-40kg:** 60 mg once daily for ten days **Child ≥ 1 year and ≥ 40kg:** 75 mg once daily for ten days **Child ≥ 13 to 18 years:** 75 mg once daily for ten days **Note:** There is limited safety or efficacy data in children < 12 months of age for influenza prophylaxis; it should only be used in high risk infants and in consultation with Infectious Diseases. Post exposure prophylaxis is NOT a replacement for influenza vaccination.
	Measles	All suspected measles cases must be notified urgently via phone to the relevant Public Health Unit. Notification must also be made to the Communicable Disease Control Directorate (CDCD) via the communicable disease notification for metropolitan residents or regional residents. Contacts of confirmed measles cases may require vaccination or treatment with normal human immunoglobulin. Refer to: CDNA National Guidelines for Public Health Units – Measles for further information All cases of staff exposure must be discussed with CAHS Staff Health service.

CLINICAL SCENARIO		DRUGS/DOSES
		Standard Protocol For patients with a beta-lactam allergy, refer to ChAMP Beta-lactam Allergy Guideline[a]
Post exposure prophylaxis	Invasive Group A Streptococcal (iGAS) infection (*Streptococcus pyogenes*)	Invasive Group A Streptococcal (iGAS) infection is a notifiable condition. All confirmed cases must be notified to Public Health or to the Communicable Disease Control Directorate (CDCD). A direct email from the Clinical Microbiologist to: DoH_CDCDOnCall@health.wa.gov.au AND to the relevant Public Health Unit based on the residential address of the case. Diagnosing clinicians must notify cases to the CDCD by completing the communicable disease notification for metropolitan residents or regional residents. The risk of secondary cases in household contacts is high. Prophylaxis of immediate / household contacts (including mother-neonatal pairs) of an iGAS infection should commence without delay. iGAS infection is defined as any of the following: - Pneumonia - Meningitis - Necrotising fasciitis - Streptococcal toxic shock syndrome - Any presentation leading to Paediatric Critical Care (PCC) admission or death - Bacteraemia - Bone and joint infections - Deep soft tissue infection **Neonate < 4 weeks:** Oral cefalexin: 25 mg/kg/dose twice daily for ten days. Oral cefalexin not recommended if history of high-risk penicillin allergy. Contact Infectious Diseases for advice. **Child ≥ 4 weeks**: Oral azithromycin: 12 mg/kg/dose (to a maximum of 500 mg) once daily for five days **OR** Oral cefalexin: 25 mg/kg/dose (to a maximum of 1 gram) twice daily for ten days. Oral cefalexin not recommended if history of high-risk penicillin allergy. **OR** IM benzathine Benzylpenicillin Benzathine Benzylpenicillin not recommended if history of high or low risk penicillin allergy. **Child < 10kg:** 450,000 units (0.9mL) as a single IM dose **Child ≥ 10kg to < 20kg:** 600,000 units (1.2mL) as a single IM dose **Child ≥ 20kg:** 1,200,000 units (2.3mL) as a single IM dose All cases of staff exposure must be discussed with the CAHS Staff Health service.

<table>
<tr><th colspan="2" rowspan="2">CLINICAL SCENARIO</th><th>DRUGS/DOSES</th></tr>
<tr><th>Standard Protocol
For patients with a beta-lactam allergy, refer to ChAMP Beta-lactam Allergy Guideline[a]</th></tr>
<tr><td>Pneumocystis jiroveci (carnii)</td><td>Pneumocystis jiroveci (carinii) pneumonia prophylaxis</td><td>Oral trimethoprim with sulfamethoxazole (co-trimoxazole)
Child ≥ 4 weeks: 2.5 mg/kg/dose of trimethoprim component; equivalent to 0.3 mL/kg/dose of suspension (to a maximum of 160 mg trimethoprim component) twice daily on three days per week

Suggested dose bands:
<table>
<tr><th>Body Surface Area (m^2)</th><th>trimethoprim/ sulfamethoxazole tablets (80 mg / 400 mg) given twice daily on three days per week</th><th>trimethoprim/ sulfamethoxazole liquid (40 mg / 200 mg per 5 mL) given twice daily on three days per week</th></tr>
<tr><td>< 0.5</td><td>N/A</td><td>0.3 mL/kg/dose BD</td></tr>
<tr><td>0.5-0.75</td><td>HALF a tablet BD</td><td>5 mL</td></tr>
<tr><td>0.76-0.99</td><td>1 tablet morning and HALF a tablet at night</td><td>7.5 mL BD</td></tr>
<tr><td>1-1.49</td><td>1 tablet BD</td><td>10 mL BD</td></tr>
<tr><td>≥ 1.5</td><td>2 tablets BD</td><td>20 mL BD</td></tr>
</table>
OR
trimethoprim with sulfamethoxazole (co-trimoxazole)
Child ≥ 4 weeks: 5 mg/kg/dose of trimethoprim component (to a maximum of 320mg) once daily on three days per week

If oral trimethoprim with sulfamethoxazole (co-trimoxazole) is not tolerated or unsuitable due to interactions
IV pentamidine isetionate
Child ≥ 4 weeks: 4 mg/kg/dose (to a maximum of 300 mg) every four weeks.</td></tr>
<tr><td>Recurrent VZV/HSV</td><td>Recurrent Varicella zoster virus or Herpes Simplex virus prophylaxis (in immunocompromised patients)</td><td>Prevention of recurrent Herpes Simplex Virus and prevention of HSV in HSV seropositive patients, Cytomegalovirus and Varicella-Zoster Virus infection post Haematopoetic Stem Cell Transplant or Autologous Stem Cell Rescue

IV aciclovir:
Child ≥ 4 weeks to 18 years: 5 mg/kg/dose (to a maximum of 750 mg) 8 hourly

Patients should be converted to oral aciclovir or valaciclovir as soon as oral medications are tolerated

Oral valaciclovir:
Child ≥ 3 months and <40kg: 250 mg twice daily
Child and adolescent ≥40kg: 500 mg twice daily
OR
Oral aciclovir:
Child ≥ 4 weeks to 23 months: 100 mg – 200 mg four times a day
Child ≥ 2 years to 18 years: 200 mg – 300 mg three times a day</td></tr>
</table>

CLINICAL SCENARIO		DRUGS/DOSES			
		Standard Protocol	**Known or Suspected MRSA[b]**	**Low risk penicillin allergy[a]**	**High risk penicillin allergy[a]**
Rheumatic fever	Rheumatic fever – prevention of recurrent Acute Rheumatic Fever (ARF) / progressive Rheumatic Heart Disease (RHD)	IM benzathine benzylpenicillin Child ≥ 4 weeks to 18 years: < 20kg: 600,000 units (1.2mL) OR ≥ 20kg: 1,200,000 units (2.3mL) every 3-4 weeks. **OR** As a second line agent: Oral phenoxymethylpenicillin Child ≥ 4 weeks to 18 years: 250mg twice daily.	As per standard protocol	erythromycin[c]	erythromycin[c]
Asplenia/ hyposplenia	Asplenia, sickle cell anaemia, functional hyposplenia, post-splenectomy	Oral amoxicillin (all ages): 20 mg/kg/dose (up to 250 mg) once daily **OR** Oral phenoxymethylpenicillin Child <1 year old: 62.5 mg twice daily Child 1-5 years old: 125 mg twice daily Child ≥ 5 years: 250 mg twice daily	As per standard protocol	roxithromycin[d] **OR** consider oral challenge in discussion with immunology	roxithromycin[d]
		Refer to Asplenia and Hyposplenia Vaccination and Prophylaxis and the Australian Immunisation Handbook for advice on additional vaccines that are required.			

<table>
<tr><th colspan="2" rowspan="2">CLINICAL SCENARIO</th><th colspan="4">DRUGS/DOSES</th></tr>
<tr><th>Standard Protocol</th><th>Known or Suspected MRSA[b]</th><th>Low risk penicillin allergy[a]</th><th>High risk penicillin allergy[a]</th></tr>
<tr><td rowspan="3">Infective endocarditis</td><td colspan="5">Infective endocarditis
Prophylaxis against endocarditis is recommended only for children whose cardiac conditions have the highest risk of adverse outcomes from endocarditis, discuss with cardiology if unsure.
Previous infective endocarditis
Prosthetic valve or valve repair with prosthetic material
Shunt or conduit in situ
Uncorrected cyanotic heart disease
Recent (< 6 months) closure with prosthetic material or devices (including coils)
Cardiac transplant with valvulopathy
Rheumatic heart disease
For children already receiving antibiotic therapy, discuss prophylaxis with infectious diseases or clinical microbiology.</td></tr>
<tr><td><u>Dental and ENT procedures</u>:
Dental extraction
Periodontal procedures including surgery, deep subgingival scaling, or root planning
Re-implantation of avulsed permanent teeth
Oral surgical procedures such as apicectomy or implant placement
Tonsillectomy
Adenoidectomy
Invasive procedure to treat established infection</td><td>Oral amoxicillin 50 mg/kg/dose (to a maximum of 2 grams) 1 hour before the procedure if not performed under general anaesthetic
or
IV amoxicillin 50 mg/kg/dose (to a maximum of 2 grams) 15 to 60 minutes before the procedure</td><td>As per standard protocol</td><td>Oral cefalexin[e]
or
IV cefazolin[f]</td><td>clindamycin[g]</td></tr>
<tr><td colspan="4">Also consider prophylaxis for dental procedures if multiple procedures are being conducted, the procedure is prolonged, or periodontal disease is present.

Prophylaxis is not routinely recommended for the following dental procedures:
anaesthetic injections through non-infected tissue,
routine restorative procedures,
placement of removable prosthodontic or orthodontic appliances,
shedding of deciduous teeth,
bleeding from trauma to the lips and oral mucosa.</td></tr>
</table>

CLINICAL SCENARIO		DRUGS/DOSES			
		Standard Protocol	**Known or Suspected MRSA[b]**	**Low risk penicillin allergy[a]**	**High risk penicillin allergy[a]**
Infective endocarditis	Intra-abdominal procedures: • appendicitis or peritonitis	As per surgical prophylaxis guideline Amoxicillin/clavulanic acid is routinely indicated for appendicitis or peritonitis surgical prophylaxis. No additional cover for infective endocarditis is required.	Discuss with ID or Microbiology service		
	Urological procedures: • Lithotripsy Any procedure in the presence of infection (e.g. drainage of infected hydronephrosis, or cystoscopy with urinary tract infection (UTI))	As per surgical prophylaxis guideline **IF** piperacillin/tazobactam is recommended for surgical prophylaxis, no additional cover for infective endocarditis is required. **IF** cefazolin and gentamicin are recommended for surgical prophylaxis **ADD** Oral amoxicillin 50 mg/kg/dose (to a maximum of 2 grams) 1 hour before the procedure if not performed under general anaesthetic **OR** IV amoxicillin 50 mg/kg/dose (to a maximum of 2 grams) 15 to 60 minutes before the procedure	Discuss with ID or Microbiology service		
	Other surgery or invasive procedures in the presence of infection: e.g. abscess drainage or incision through infected skin/ tissue.	Discuss with ID or Microbiology service			

a) 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

b) 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

c) Child ≥ 4 weeks: Oral erythromycin base **10 mg/kg/dose** (to a maximum of 250 mg) 12 hourly **or** erythromycin ethyl succinate **10 mg/kg/dose** (to a maximum of **400 mg**) 12 hourly.

d) Child ≥ 4 weeks: Oral roxithromycin 4 mg/kg/dose (to a maximum of 150 mg) once daily.
e) Oral cefalexin **50 mg/kg** (to a maximum of 2 grams) as a single dose given 1 hour before the procedure.
f) IV cefazolin **30 mg/kg** (to a maximum of 2 grams) as a single dose 15 to 60 minutes prior to the procedure.
g) IV or oral clindamycin **20 mg/kg** (to a maximum of 600 mg) as a single dose. Oral dose given 1 hour before the procedure, IV dose given over at least 20 minutes just before the procedure. Repeat dose if operation > 6 hours.

Related CAHS internal policies, procedures and guidelines
Asplenia and hyposplenia vaccination and prophylaxis
Antimicrobial Stewardship Policy
ChAMP Empiric Guidelines and Monographs
KEMH Neonatal Medication Protocols

References and related external legislation, policies, and guidelines

1. Antibiotic Writing Group. eTG complete. West Melbourne: Therapeutic Guidelines Ltd; 2020. Available from: https://tgldcdp-tg-org-au.pklibresources.health.wa.gov.au/etgAccess.
2. Rossi S, editor. Australian Medicines Handbook. Adelaide, S. Aust.: Australian Medicines Handbook; 2020.Centre for Disease Control, Department of Health Northern Territory, Public Health Management of invasive group A streptococcal infection, November 2015,

Available from: http://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/1187/1/iGAS%20guidelines%20Nov%202015.pdf
3. The Department of Health. Series of National Guidelines (SoNGs): Department of Health; 2020 [Available from: https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdnasongs.htm.
4. RHD Australia (ARF/RHD writing group). The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (3.2 edition, March 2022); 2020

Useful resources (including related forms)
Communicable disease notification – Metropolitan residents
Communicable disease notification – Regional residents
Series of National Guidelines (SoNGs) – Communicable Diseases Network Australia
Invasive Meningococcal Disease (IMD) – National guidelines for public health units
Haemophilus influenza type b Invasive infection – National guidelines for public health units
Pertussis – National guidelines for public health units
Seasonal influenza infection – National guidelines for public health units

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

File Path:	W:\Safety & Quality\CAHS\CLOVERS MEDICAL Pharmacy\Procedures Protocols and Guidelines\ChAMP\Word\Empiric Guidelines		
Document Owner:	Head of Department – Infectious Diseases		
Reviewer / Team:	Children's Antimicrobial Stewardship Program (ChAMP) Pharmacist		
Date First Issued:	November 2013	Last Reviewed:	August 2023
Amendment Dates:	March 2021, September 2021, July 2022, August 2023	Next Review Date:	September 2026
Approved by:	Drug and Therapeutics Committee	Date:	September 2023
Endorsed by:	Chair, Drug and Therapeutics Committee	Date:	September 2023
Standards Applicable:	NSQHS Standards:  NSMHS: N/A Child Safe Standards: N/A		
Printed or personally saved electronic copies of this document are considered uncontrolled