GUIDELINE	
Skin and Soft Tissue Infections (Paediatric Empiric Guidelines)	
Scope (Staff):	Medical, Nursing and Pharmacy
Scope (Area):	Perth Children's Hospital (PCH)

Child Safe Organisation Statement of Commitment

The Child and Adolescent Health Service (CAHS) commits to being a child safe organisation by meeting the National Child Safe Principles and National Child Safe Standards. This is a commitment to a strong culture supported by robust policies and procedures to ensure the safety and wellbeing of children at CAHS.

This document should be read in conjunction with this DISCLAIMER

CLINICAL SCENARIO		Usual duration	DRUGS/DOSES			
			Standard Protocol	Known or Suspected MRSA[a]	Low Risk Penicillin allergy[b]	High Risk Penicillin allergy[b]
For cellulitis or soft tissue infection PLUS concern for sepsis, refer to Sepsis and Bacteraemia.						
Cellulitis	Cellulitis, abscess or soft tissue infection <1 month old	5-10 days	IV flucloxacillin[c] (dose as per neonatal guidelines)	vancomycin[c] (dose as per neonatal guidelines)		
	Mild cellulitis, abscess or soft tissue infection ≥1 month old	5 days	Oral cefalexin 20mg/kg/dose (to a maximum of 750mg) 8 hourly **OR** Oral flucloxacillin 12.5mg/kg/dose (to a maximum of 500mg) 6 hourly	cotrimoxazole[d]	cefalexin[e]	cotrimoxazole[d] **OR** clindamycin[f]
	Moderate cellulitis, abscess or soft tissue infection ≥1 month old	≤10 days (oral + IV)	IV flucloxacillin 50mg/kg/dose (to a maximum of 2 grams) 6 hourly	**ADD** cotrimoxazole[d] to standard protocol	cefazolin[g]	cotrimoxazole[d] **OR** clindamycin[h]
			For oral step down options refer to mild cellulitis, abscess or soft tissue infection ≥1 month old above. Refer to HiTH Antimicrobial guidelines for suitable HiTH antibiotic options.			

CLINICAL SCENARIO		Usual duration	DRUGS/DOSES			
			Standard Protocol	Known or Suspected MRSA[a]	Low Risk Penicillin allergy[b]	High Risk Penicillin allergy[b]
Cellulitis ≥1 month old	Severe skin and soft tissue infection	refer to ID	IV flucloxacillin 50mg/kg/dose (to a maximum of 2 grams) 6 hourly **AND** IV vancomycin 15mg/kg/dose (to a maximum initial dose of 750mg) 6 hourly **ADD** IV clindamycin 10mg/kg/dose (to a maximum of 600mg) 6 hourly in suspected/proven necrotising fasciitis or severe cellulitis with shock.	As per standard protocol	cefazolin[g] **AND** vancomycin[i] **AND** clindamycin[j]	vancomycin[i] **AND** clindamycin[j]
	Suspected or proven polymicrobial necrotising fasciitis/ Fournier's gangrene	refer to ID	IV meropenem 40mg/kg/dose (to a maximum of 2 grams) 8 hourly **AND** IV vancomycin 15mg/kg/dose (to a maximum initial dose of 750mg) 6 hourly **AND** IV clindamycin 10mg/kg/dose (to a maximum of 600mg) 6 hourly	As per standard protocol		Discuss with ID or Microbiology service
Lymphadenitis ≥1 month old	Mild cervical lymphadenitis	7 days	Oral cefalexin 20mg/kg/dose (to a maximum of 750mg) 8 hourly **OR** Oral flucloxacillin 12.5mg/kg/dose (to a maximum of 500mg) 6 hourly	cotrimoxazole[d]	cefalexin[e]	cotrimoxazole[d] **OR** clindamycin[f]
	Moderate to severe cervical lymphadenitis	≤10 days (oral + IV)	IV flucloxacillin 50mg/kg/dose (to a maximum of 2 grams) 6 hourly	**ADD** vancomycin[i] to standard protocol	cefazolin[g]	clindamycin[h] **OR** vancomycin[i]
			Course may be completed before 10 days if clinically resolved. For oral step down options refer to mild cervical lymphadenitis above Refer to HiTH Antimicrobial guidelines for suitable HiTH antibiotic options.			
	Suspected retropharyngeal abscess or deep neck space infection		Refer to Ear, Nose, Throat and Dental empiric guidelines			

CLINICAL SCENARIO		Usual duration	DRUGS/DOSES			
			Standard Protocol	Known or Suspected MRSA[a]	Low Risk Penicillin allergy[b]	High Risk Penicillin allergy[b]
Impetigo ≥1 month old	Impetigo – mild/ localised	7 days	Topical mupirocin 2% ointment apply 8 hourly	As per standard protocol		
	Impetigo - widespread/ recurrent and/or high risk of ARF/ PSGN [¥]	variable 1 dose	Oral cotrimoxazole 4mg/kg/dose (to a maximum of 160mg trimethoprim component) twice daily for THREE days **OR** Oral cotrimoxazole 8mg/kg/dose (to a maximum of 320mg trimethoprim component) once daily for FIVE days **OR** Single dose of IM Benzathine benzylpenicillin. <10kg: 450,000units (0.9mL) 10-<20kg: 600,000units (1.2mL) ≥20kg: 1,200,000units (2.3mL)	cotrimoxazole[k]	cotrimoxazole[k]	cotrimoxazole[k]
Bites ≥1 month old	Bites - Prophylaxis, or mild to moderate infection	5 days	Oral amoxicillin/clavulanic acid 25mg/kg/dose (to a maximum of 875mg of amoxicillin component) 12 hourly	Discuss with ID or Microbiology service	cotrimoxazole[d] **AND** metronidazole[l] **OR** consider amoxicillin challenge in discussion with immunology	cotrimoxazole[d] **AND** metronidazole[l]
			Tetanus immunisation history needs to be reviewed. Consider the need for tetanus prophylaxis as per Tetanus prone wounds.			
	Bites - Severe infection or injury	14 days (IV + oral)	IV amoxicillin/clavulanic acid[m]	**ADD** vancomycin[i] to standard protocol	ceftriaxone[n] **AND** metronidazole[o]	Discuss with ID or Microbiology service
			For oral step down options refer to bites, prophylaxis, or mild to moderate infection above. Tetanus immunisation history needs to be reviewed. Consider the need for tetanus prophylaxis as per Tetanus prone wounds.			

CLINICAL SCENARIO		Usual duration	DRUGS/DOSES			
			Standard Protocol	Known or Suspected MRSA[a]	Low Risk Penicillin allergy[b]	High Risk Penicillin allergy[b]
Traumatic wounds ≥1 month old	Mildly contaminated traumatic skin and soft tissue wounds	5 days	Oral cefalexin 20mg/kg/dose (to a maximum of 750mg) 8 hourly	cotrimoxazole[d]	As per standard protocol	cotrimoxazole[d]
	Heavily contaminated wounds requiring IV antibiotics	7 days	IV piperacillin/tazobactam 100mg/kg/dose (to a maximum of 4 grams piperacillin component) 8 hourly	Discuss with ID or Microbiology service	cefazolin[g] **AND** metronidazole[o]	ciprofloxacin[p] **AND** clindamycin[h]
Water-immersed wounds ≥1 month old	Local infection of sea-water immersed wound	5 days	Oral cefalexin 20mg/kg/dose (to a maximum of 750mg) 8 hourly **AND** Children < 8 years: Oral ciprofloxacin 12.5mg/kg/dose (to a maximum of 500mg) 12 hourly **OR** Children ≥ 8 years: Oral doxycycline[q]	cotrimoxazole[d]	As per standard protocol	cotrimoxazole[d]
	Localised infection of fresh, brackish or aquarium water immersed wounds	5 days	Oral cotrimoxazole 8mg/kg/dose (to a maximum of 320mg trimethoprim component) twice daily	As per standard protocol		
	Localised infection of soil or sewerage contaminated water immersed wounds	5 days	Oral cotrimoxazole 8mg/kg/dose (to a maximum of 320mg trimethoprim component) twice daily **AND** Oral metronidazole 10mg/kg/does (to a maximum of 400mg) twice daily	As per standard protocol		
	Severe wounds with water exposure (sea, fresh, brackish or aquarium) or localised infection with systemic features	5 to 7 days (IV and oral)	IV flucloxacillin 50mg/kg/dose (to a maximum of 2 grams) 6 hourly **AND** IV ciprofloxacin 10mg/kg/dose (to a maximum of 400mg) 8 hourly	**ADD** vancomycin[i] to standard protocol	cefazolin[g] **AND** ciprofloxacin[p]	clindamycin[h] **AND** ciprofloxacin[p]
	Severe wounds exposed to soil or sewerage contaminated water (including shark or crocodile bites)	Refer to ID	IV cefepime 50mg/kg/dose (to a maximum of 2 grams) 8 hourly **AND** IV metronidazole 12.5mg/kg/dose (to a maximum of 500mg) 12 hourly	**ADD** vancomycin[i] to standard protocol	As per standard protocol	clindamycin[h] **AND** ciprofloxacin[p]

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 hours 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. Doses as per neonatal guidelines

d. Oral cotrimoxazole **4mg/kg/dose of trimethoprim component 12 hourly; equivalent to 0.5mL/kg/dose of mixture**, (maximum of 160mg trimethoprim component per dose)

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

f. Oral clindamycin **10mg/kg/dose** (to a maximum of 450mg) 8 hourly. Use only if the calculated dose is a multiple of 150mg (i.e. a full capsule) and patient is capable of swallowing capsules due to the bitter taste of the powder.

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

h. IV clindamycin **10mg/kg/dose** (to a maximum of 600mg) 8 hourly.

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

j. IV clindamycin **10mg/kg/dose** (to a maximum of 600mg) 6 hourly.

k. Oral cotrimoxazole **8mg/kg/dose of trimethoprim component once daily equivalent to 1mL/kg/dose of mixture**, (maximum of 320mg trimethoprim component per dose) for FIVE days.

   OR

   Oral cotrimoxazole **4mg/kg/dose of trimethoprim component 12 hourly; equivalent to 0.5mL/kg/dose of mixture**, (maximum of 160mg trimethoprim component per dose) for THREE days.

l. Oral metronidazole **10mg/kg/dose** (to a maximum of 400mg) 12 hourly.

m. IV amoxicillin/clavulanic acid (doses based on amoxicillin component)

   - Birth (term) to 3 months and <4kg: IV infusion **25mg/kg/dose** 12 hourly.
   - Birth (term) to 3 months and >4kg: IV infusion **25mg/kg/dose** 8 hourly.
   - 3 months and <40kg: IV **25mg/kg/dose** (maximum 1g) 8 hourly; increase to 6 hourly in severe infections.
   - >40kg: IV **1g 8 hourly**; increase to 6 hourly in severe infections. Up to 2g every 6-8 hours can be used.

n. IV ceftriaxone **50mg/kg/dose** (to a maximum of 2 grams) 24 hourly

o. IV metronidazole **12.5mg/kg/dose** (to a maximum of 500mg) 12 hourly.

p. IV ciprofoxacin **10mg/kg/dose** (to a maximum of 400mg) 8 hourly. ChAMP approval required

q. Oral doxycycline **1-2mg/kg/dose** (to a maximum of 100mg) twice daily

¥ Children living in remote Indigenous communities or with previous acute rheumatic fever (ARF) or post-streptococcal glomerulonephritis (PSGN) are at greatest risk. IM Benzathine benzylpenicillin should be used for impetigo.

Related CAHS internal policies, procedures and guidelines
Antimicrobial Stewardship Policy (Medication Management Manual)
ChAMP Empiric Guidelines

References and related external legislation, policies, and guidelines

1. Antibiotic Writing Group. Therapeutic Guidelines - Antibiotic. West Melbourne: Therapeutic Guidelines Ltd; 2019. Available from: http://online.tg.org.au.pklibresources.health.wa.gov.au/ip/.
2. Stevens DL, Bisno AL, Chambers HF, Dellinger EP, Godlstein EJ, Gorbach SL, Hirschmann SL, Montoya JG, Wade JC. Practice Guidelines for the Diagnisis and Management of Skin and Soft Tissues Infections: 2014 Update by the Infectious Diseases Society of America. 2014 52(2).
3. The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic heart disease (3rd edition). Available from : https://www.rhdaustralia.org.au/system/files/fileuploads/arf_rhd_guidelines_3rd_edition_final.pdf

Useful resources (including related forms)

National Healthy Skin Guideline: for the Prevention, Treatment and Public Health Control of Impetigo, Scabies, Crusted Scabies and Tinea for Indigenous Populations and Communities in Australia – 1st edition.

This document can be made available in alternative formats on request for a person with a disability.

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