GUIDELINE

Intra-abdominal Sepsis – 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

CLINICAL SCENARIO		DURATION	DRUGS/DOSES		
			Standard Protocol (including known or suspected MRSA[a])	**Low Risk Penicillin allergy[b]**	**High Risk Penicillin allergy[b]**
Peritonitis	Presumed or proven peritonitis < 4 weeks old	variable	IV piperacillin/tazobactam (dose as per neonatal guidelines) **OR** IV gentamicin[c] **WITH** IV amoxicillin **AND** IV metronidazole (doses as per neonatal guidelines)	Discuss with Infectious Diseases or Clinical Microbiology service.	
	Presumed or proven peritonitis (due to a perforated viscus) ≥ 4 weeks old	variable	IV amoxicillin/clavulanic acid[d] **OR** IV piperacillin/ tazobactam 100 mg/kg/dose (to a maximum of 4 grams piperacillin component) given 8 hourly	IV ceftriaxone[f] **AND** IV metronidazole[g]	IV gentamicin[e] **AND** IV clindamycin[h]

CLINICAL SCENARIO		DURATION	DRUGS/DOSES		
			Standard Protocol (including known or suspected MRSA[a])	**Low Risk Penicillin allergy[b]**	**High Risk Penicillin allergy[b]**
	Appendicitis (**without** peritoneal soiling)	Stop after surgery	IV amoxicillin/clavulanic acid[d]	IV ceftriaxone[f] **AND** IV metronidazole[g]	IV gentamicin[e] **AND** IV clindamycin[h]
	Appendicitis (**with** peritoneal soiling)	Up to 5 days (IV and oral) after source control	IV amoxicillin/clavulanic acid[d] **OR** IV piperacillin/tazobactam 100 mg/kg/dose (to a maximum of 4 grams piperacillin component) given 8 hourly	IV ceftriaxone[f] **AND** IV metronidazole[g]	IV gentamicin[e] **AND** IV clindamycin[h]
			CONSIDER switching to oral amoxicillin/clavulanic acid 25 mg/kg/dose (to a maximum of 875 mg amoxicillin component) 12 hourly for oral switch	Oral cefalexin **AND** Oral metronidazole **OR** Consider oral amoxicillin/ clavulanic acid challenge in discussion with immunology	Oral cotrimoxazole[i] **AND** Oral metronidazole[j]
Other infections	Biliary sepsis or ascending cholangitis	7 – 10 days (IV and oral) OR up to 5 days if biliary drainage	IV amoxicillin/clavulanic acid[d] **OR** IV piperacillin/ tazobactam 100 mg/kg/dose (to a maximum of 4 grams piperacillin component) given 8 hourly	IV ceftriaxone[f] **AND** IV metronidazole[g]	IV gentamicin[e] **AND** IV clindamycin[h]
	Spontaneous bacterial peritonitis	5 days if symptoms improve rapidly	IV ceftriaxone 50 mg/kg/dose (to a maximum of 2 grams) once daily	As per standard protocol	Discuss with Infectious Diseases or Clinical Microbiology service.
Intraperitoneal dosing for Peritoneal Dialysis (PD) associated peritonitis.					
For long term renal patients on peritoneal dialysis refer to individual patient profiles as per PCH renal team. For patients in Paediatric Critical Care (PCC) unit at PCH undergoing peritoneal dialysis with presumed or confirmed peritonitis, contact the Renal and/or Infectious Diseases team. Treatment should be conducted in line with the ISPD Guidelines / Recommendations					

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. 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) Gentamicin is rapidly bactericidal and should be administered prior to amoxicillin and metronidazole. Aminoglycoside antibiotics may be inactivated by penicillin and cephalosporin antibiotics: lines should be flushed well with a compatible fluid between administration.

d) IV amoxicillin/clavulanic acid (doses based on amoxicillin component):

- Birth (term) to 3 months and < 4 kg: IV infusion 25 mg/kg/dose every 12 hours.
- Birth (term) to 3 months and > 4 kg: IV infusion 25 mg/kg/dose every 8 hours.
- 3 months and < 40 kg: IV 25 mg/kg/dose (maximum 1 gram) every 8 hours; may be increased to every 6 hours in severe infections.
- ≥ 40 kg: IV 1 gram every 8 hours; may be increased to every 6 hours in severe infections.

e) IV/IM gentamicin Children ≥ 4 weeks old to 10 years old: 7.5 mg/kg/dose ONCE daily to a maximum of 320 mg. Children >10 years to 18 years: 6-7 mg/kg/dose ONCE daily to a maximum of 560 mg. Therapeutic drug monitoring required.

f) IV ceftriaxone **50 mg/kg/dose** (to a maximum of 2 grams) once daily.

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

h) IV clindamycin **15 mg/kg/dose** (to a maximum of 600 mg) 8 hourly.

i) Oral co-trimoxazole **4 mg/kg/dose** (to a maximum 160 mg trimethoprim component) given twice daily.

j) Oral metronidazole **10 mg/kg/dose** (to a maximum of 400 mg) given twice daily.

Related CAHS internal policies, procedures and guidelines
Antimicrobial Stewardship Policy
ChAMP Monographs
KEMH Neonatal Medication Protocols

References and related external legislation, policies, and guidelines

1. 1. Antibiotic Writing Group. Therapeutic Guidelines - Antibiotic. West Melbourne: Therapeutic Guidelines Ltd; 2022. Available from: https://tgldcdp-tg-org-au.pklibresources.health.wa.gov.au/etgAccess.
2. Warady BA, Bakkaloglu S, Newland J, Cantwell M, Verrina E, Neu A, et al. Consensus Guidelines for the Prevention and Treatment of Catheter-Related Infections and Peritonitis in Paediatric Patients Receiving Peritoneal Dialysis: 2012 Update. Perit Dial Int. 2012;32:S29-S86.
3. Li PK-T, Chow KM, Cho Y, Fan S, Figueiredo AE, Harris T, et al. ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. Peritoneal Dialysis International. 2022;42(2):110-53.

Useful resources (including related forms)
Therapeutic Guidelines
International Society for Peritoneal Dialysis Guidelines

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

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