Intra-abdominal Infections

INFECTION	MOST LIKELY ORGANIMS	THERAPY CATEGORY	ANTIMICROBIALS	COMMENTS
APPENDICITIS • community-acquired	*Enterobacteriales* *Bacteroides* spp. Other anaerobes *Enterococus* spp.	First line	**Ceftriaxone 50 mg/kg/dose IV q24h** (max. 2 g/dose) **AND** **Metronidazole 30 mg/kg/dose IV q24h** (max. 1500 mg/**DAY**)	Surgical antibiotic prophylaxis with cefoxitin 40 mg/kg/dose (max. 2g/dose) IV q2h recommended To ensure adequate levels of antibiotics in the surgical wound, surgical antibiotic prophylactic doses may need to be re-administered within 30 to 60 minutes of incision (*refer to "MUHC recommendations for surgical antibiotic prophylaxis in pediatrics" guideline*).
		Penicillin allergy	Same	
INTRA-ABDOMINAL ABCESS PERITONITIS • community-acquired	*Enterobacteriales* *Bacteroides* spp. Other anaerobes *Enterococus* spp.	First line	**Ceftriaxone 50 mg/kg/dose IV q24h** (max. 2 g/dose) **AND** **Metronidazole 10 mg/kg/dose IV q8h** (max. 500 mg/dose)	
		Penicillin allergy	Same	
HEALTHCARE-ASSOCIATED INTRA-ABDOMINAL INFECTION • surgical site infection	*Enterobacteriales* *Bacteroides* spp. Other anaerobes *Enterococus* spp. *Pseudomonas* spp.	First line	**Mild-moderate:** **Piperacillin/tazobactam 200-300 mg/kg/DAY IV DIVIDED q6h** (max. 12 g/**DAY**) Refer to Lexicomp for neonatal dosages	

• peritonitis • spontaneous intestinal perforation in NICU			**Severe (e.g. concomitant sepsis, septic shock):** **Meropenem 20 mg/kg/dose IV q8h** (max. 2 g/dose): Refer to Lexicomp for neonatal dosages	
		Penicillin allergy	**Meropenem 20 mg/kg/dose IV q8h** (max. 2 g/dose)	
NECROTIZING ENTEROCOLITIS Stage 1 (suspected)	*Enterobacteriales* *Bacteroides* spp. Other anaerobes *Enterococus* spp	First line	**Piperacillin-Tazobactam IV**: Lexicomp dosages **If meningitis suspected, use instead:** **Meropenem IV** Lexicomp dosages	Some clinicians may opt to place the baby NPO and observe without antibiotics.
NECROTIZING ENTEROCOLITIS Stage 2 (definite)	*Enterobacteriales* *Bacteroides* spp. Other anaerobes *Enterococus* spp	First line	**Piperacillin-Tazobactam IV** Lexicomp dosages **If meningitis suspected, use instead:** **Meropenem IV** Lexicomp dosages	If late-onset sepsis also suspected: add vancomycin only as per indications in protocol *The prescription and use of vancomycin in the Neonatal Intensive Care Unit (NICU)*
NECROTIZING ENTEROCOLITIS Stage 3 (advanced)	*Enterobacteriales* *Bacteroides* spp. Other anaerobes *Enterococus* spp.	First line	**If septic shock and/or meningitis suspected:** **Meropenem IV** Lexicomp dosages **If the above considerations are not/no longer present, can narrow to:** **Piperacillin-Tazobactam IV** Lexicomp dosages	Consult protocol: *The prescription and use of vancomycin in the Neonatal Intensive Care Unit (NICU)* to determine if vancomycin is needed A general surgery consult must be obtained for those cases.
ASCENDING CHOLANGITIS	*Enterobacteriales* *Bacteroides* spp.	First line	**Mild-moderate:** **Piperacillin/tazobactam**	

community-acquired	*Clostridium* spp. Other anaerobes *Enterococcus* spp.		**240-300 mg/kg/DAY IV DIVIDED q6-8h** (max. 12 g/**DAY**) **Severe (e.g. concomitant sepsis, septic shock):** **Meropenem 20 mg/kg/dose IV q8h (max. 2 g/dose)**	
		Penicillin allergy	**Mild-moderate:** **Ertapenem IV**: **Less than 12 years old:** 15 mg/kg/dose q12h (max. 500 mg/dose) **12 years and above**: q24h (max. 1000 mg/dose) **Severe (e.g. concomitant sepsis, septic shock):** **Meropenem 20 mg/kg/dose IV q8h** (max. 2 g/dose)	
SPONTANEOUS BACTERIAL PERITONITIS • community-acquired • (e.g. in children with nephrotic syndrome)	Strep *pneumoniae* *Enterobacteriaceae* Group A Strep	First line	**Ceftriaxone 50 mg/kg/dose IV q24h** (max. 2 g/dose)	
		Penicillin allergy	Same	
PERITONITIS (RELATED TO PERITONEAL DIALYSIS)	S. *aureus* *Enterobacteriaceae* *Pseudomonas* CoNS (coagulase-negative staphylococci) *Candida* spp.	First line	**Cefepime** intraperitoneal	Refer to *Nephrology protocol.* Catheter removal should be performed when there is no response to antibiotics after 5 days. Add systemic antibiotics/ antifungal if there is
		Penicillin allergy	Same	

				accompanying bacteremia/ fungemia.

REFERENCES:

Empiric Antimicrobial Therapy Guide: Version 8, June 2024