

Emergency General Surgery Practice Management Guidelines: Antimicrobial Therapy

I. **Purpose:** Many patients who present to the Emergency General Surgery service do so for infectious causes. This serves to provide guidance and consistency in antibiotic prescribing for common EGS presenting diagnoses.

II. Guideline:

A. Acute Appendicitis

- a. Without Shock
 - i. First Line: Ceftriaxone/metronidazole
 - ii. Severe PCN allergy: Levofloxacin/metronidazole
- b. Sepsis/MDR risk
 - i. First Line: Piperacillin/Tazobactam
 - ii. Severe PCN allergy: Cefepime/Metronidazole/Vancomycin
- c. Duration
 - i. Non-perforated: stop postoperatively
 - ii. Perforated: 4 days after source control
 - iii. No appendectomy: 10 days

B. Acute Cholecystitis (If suspected cholangitis, use Sepsis/MDR Risk pathway)

- a. Community-acquired (no shock)
 - i. First Line: Ceftriaxone/Metronidazole (only need metronidazole if biliary-enteric anastomosis)
 - ii. Severe PCN allergy: Levofloxacin/Metronidazole (only need metronidazole if biliary-enteric anastomosis)
- b. Sepsis/MDR risk
 - i. First Line: Piperacillin/Tazobactam
 - ii. Severe PCN allergy: Cefepime/Metronidazole/Vancomycin
- c. Duration
 - i. Stop postoperatively if cholecystectomy performed
 - ii. 4 days if cholecystostomy tube placed

C. Secondary Peritonitis: (*Perforated gastric/duodenal ulcer, Diverticulitis WITH operation/drain (source control), colon perforation*)

- a. Community-acquired (no shock)
 - i. First Line: Ceftriaxone/Metronidazole
 - ii. Severe PCN allergy: Levofloxacin/Metronidazole
- b. Sepsis/MDR risk
 - i. First Line: Piperacillin/Tazobactam
 - ii. Severe PCN allergy: Cefepime/Metronidazole/Vancomycin
- c. Duration: 4 days after source control

D. Uncomplicated Diverticulitis without operation/drain AND hemodynamically normal

- a. First line: Amoxicillin/Clavulanic Acid or Ampicillin/Sulbactam (if IV needed)
- b. Severe penicillin allergy: Ciprofloxacin/Metronidazole
- c. Duration: 7 days

E. Necrotizing Soft Tissue Infection

- a. First Line: Linezolid, Piperacillin/Tazobactam
- b. Severe PCN Allergy: Linezolid, Cefepime, Metronidazole
- c. Duration: Stop once source controlled, hemodynamically normal, and no signs of active infection (typically 5-7 days)

III. References

Sawyer RG, Claridge JA, Nathens AB, Rotstein OD, Duane TM, Evans HL, Cook CH, O'Neill PJ, Mazuski JE, Askari R, Wilson MA, Napolitano LM, Namias N, Miller PR, Dellinger EP, Watson CM, Coimbra R, Dent DL, Lowry SF, Cocanour CS, West MA, Banton KL, Cheadle WG, Lipsett PA, Guidry CA, Popovsky K; STOP-IT Trial Investigators. Trial of short-course antimicrobial therapy for intraabdominal infection. *N Engl J Med.* 2015 May 21;372(21):1996-2005

Lehman A, Santevecchi BA, Maguigan KL, Laconi N, Loftus TJ, Mohr AM, Shoulders BR. Impact of Empiric Linezolid for Necrotizing Soft Tissue Infections on Duration of Methicillin-Resistant *Staphylococcus aureus*-Active Therapy. *Surg Infect (Larchmt).* 2022 Apr;23(3):313-317.

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