OHSU HEALTH
Intra-Abdominal Infection Empiric Antibiotic Guidelines

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Reviser (Title): Antimicrobial Subcommittee of CKTEC	Owner (Title): Clinical Knowledge & Therapeutics Executive Committee (CKTEC)	

PURPOSE:

To provide guidance on empiric antibiotic selection for adult EGS patients with intra-abdominal infection.

PERSONS AFFECTED:

This procedure applies to OHSU EGS workforce members involved in prescribing, dispensing or administrating antibiotics for the treatment of intra-abdominal infection.

DEFINITIONS:

- EGS: Emergency General Surgery
- MRSA: methicillin-resistant Staphylococcus aureus
- PCN: penicillin

GUIDELINE REQUIREMENTS:
Refer to Table 1 below.

RELEVANT REFERENCES:

- Mazuski JE, Tessier JM, May AK, et al. The Surgical Infection Society Revised Guidelines on the Management of Intra-Abdominal Infection. *Surg Infect (Larchmt)*. 2017;18(1):1-76. doi:10.1089/sur.2016.261
- Sawyer, R. G., et al. (2015). "Trial of short-course antimicrobial therapy for intraabdominal infection." N Engl J Med **372**(21): 1996-2005.

RELATED DOCUMENTS/EXTERNAL LINKS:
- Adult perioperative prophylactic antibiotic guidelines

APPROVING COMMITTEE(S):
Antimicrobial Subcommittee of CKTEC
CKTEC

REVISION HISTORY

Revision History Table

Document Number and Revision Level	Final Approval by	Date	Brief description of change/revision
HC-CKT-170-GUD.Rev 011221	CKTEC	November 2020	• New guideline created
HC-CKT-170-GUD	CKTEC	May 2021	• Minor edits (from 11/2020)

Table 1. Intra-abdominal infection empiric antibiotic guidelines

INTRA-ABDOMINAL INFECTION		
TYPE	Mild to Moderate	Severe
SIGNS & SYMPTOMS	• Fever • Abdominal pain	• Requiring ICU level of care, hypotension, septic shock • Neutropenia
COMMON PATHOGENS	• *E. coli, Klebsiella* species • Streptococci • Anaerobes	• *E. coli, Klebsiella* species*, Proteus, Enterobacter, Pseudomonas* • Streptococci • Anaerobes
LABS	• Do not recommend routinely obtaining peritoneal cultures in lower-risk patients	• Obtain cultures from peritoneal fluid or infected tissue to identify potential resistant organisms or opportunistic pathogens
EMPIRIC TREATMENT	Ceftriaxone 2g IV Q24H PLUS metronidazole 500mg IV/PO Q8H **Alternative for Severe PCN allergy** Ciprofloxacin 400mg IV/500mg PO Q12H PLUS metronidazole 500mg IV/PO Q8H Consider deferring antibiotics in lower-risk patients* with acute uncomplicated diverticulitis	Piperacillin-tazobactam IV 3.375g Q8H OR Cefepime 1-2g IV Q8H PLUS metronidazole 500mg Q8H **Alternative for Severe PCN allergy** Ciprofloxacin 400mg IV Q8H/750mg PO Q12H PLUS metronidazole 500mg IV/PO Q8H
	• **Please refer to the Antibiotic Surgical Prophylaxis Guidelines for surgical antibiotic prophylaxis recommendations** • **For suspected or confirmed cholecystitis/cholelithiasis/choledocholithiasis undergoing laparoscopic cholecystectomy, refer to the Laparoscopic Cholecystectomy Pathway** • **For suspected non-perforated appendicitis undergoing laparoscopic appendectomy, refer to the Laparoscopic Appendectomy Guideline**	

<table>
<tr><td>EMPIRIC ORAL STEP-DOWN</td><td>Possible empiric oral step-down options
• Amoxicillin-clavulanate 875/125mg Q8H
• Cefpodoxime 200mg Q12H PLUS metronidazole 500mg Q8H
• Ciprofloxacin 500mg Q12H PLUS metronidazole 500mg Q8H</td><td></td></tr>
<tr><td></td><td colspan="2">Antibiotics for Empiric Coverage of Specific Organisms
Enterococcus spp.:
• Recommend coverage if severe sepsis, septic shock, post-operative infection, broad-spectrum antibiotics >5d within the past 90d
• Vancomycin IV per pharmacy protocol pending culture results if patient is on a cephalosporin-based regimen; enterococci are expected to be covered by piperacillin-tazobactam
• If known history of Vancomycin-Resistant Enterococcus (VRE), daptomycin or linezolid are options

Candida spp.:
• Candida coverage is not routinely recommended
• Recommend coverage for patients who have received recent prolonged broad-spectrum antibiotics, patients heavily colonized with Candida, severely ill patients with hospital-associated intra-abdominal infection due to recurrent bowel perforations, upper gastrointestinal perforations, surgically treated pancreatitis, and/or if yeast identified on gram stain of infected peritoneal fluid or tissue
• Micafungin recommended pending culture results

MRSA: Staphylococci are not common pathogens in intraabdominal infection; add MRSA coverage if MRSA is identified on culture</td></tr>
<tr><td>DURATION</td><td colspan="2">• 4 days (96 hours) following adequate source control; if percutaneous drain placement is required for abscess, antibiotics should be continued until efficacy of catheter drainage is established
• Patients undergoing cholecystectomy for acute cholecystitis or appendectomy for non-perforated appendicitis should have antibiotics discontinued within 24 hours unless there is evidence of infection outside the wall of the gallbladder or appendix
• For patients in whom source control is known to be suboptimal, duration must be made on a case-by-case basis but recommend no more than 5-7 days of antibiotics without re-evaluation for source control</td></tr>
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*Age <70, no malignancy, no immunosuppression, no significant renal or hepatic impairment