Northwestern Memorial Hospital

SUGGESTED EMPIRIC ANTIMICROBIAL THERAPY BY SITE OF INFECTION

Empiric antimicrobial guidelines are based on the most likely organisms responsible for infection, NMH susceptibilities, and prevalence of resistant organisms. Therapy may need to be adjusted once identification and susceptibility are determined.

Previous antimicrobial therapy may affect the susceptibility of organisms that subsequently cause infection. Close attention should be given to courses of antimicrobial therapy administered to patients in the recent past. In many cases, obtaining the appropriate specimen(s) before antibiotics are started is critical to successful outcomes of an infectious disease. Alterations in empiric antimicrobial therapy may be required.

Anatomic site /diagnosis	Common Pathogens	Preferred therapy	Alternative**	Comments
GASTROINTESTINAL & INTRA-ABDOMINAL				
GALLBLADDER				
Cholecystitis (community-acquired) - Mildmoderate severity	Enterobacteriaceae	ceftriaxone	levofloxacin	Community-acquired: symptoms prior to admit or within 48h of admit AND no hospitalization within prior 90 days.
Cholangitis following biliary anastomosis – any severity	Enterobacteriaceae, anaerobes	piperacillin/tazobactam	aztreonam + metronidazole + vancomycin	
Cholecystitis (community-acquired) – Severe physiologic disturbance or high risk patient (advanced age or immunocompromised),	Enterobacteriaceae, anaerobes	piperacillin/tazobactam	aztreonam + metronidazole + vancomycin	
Cholecystitis (healthcare-associated), biliary sepsis or common duct obstruction	Enterobacteriaceae, anaerobes and the possibility of Gram- negative resistance; Enterococcus spp. in select immunocompromised patients	piperacillin/tazobactam	aztreonam + metronidazole +/- vancomycin	Healthcare-associated: prior gallbladder instrumentation, admitted longer than 48 hours, hospitalized previously in the past 90 days. See IDSA Intra-abdominal Infection Guidelines

** Severe allergy to Preferred Therapy only

C. difficile colitis		Initial episode, any nonsevere and severe: Oral vancomycin 125mg QID Initial episode, fulminant: Oral vancomycin 500mg QID plus metronidazole IV 500mg q8hours +/- vancomycin enema Recurrent episode: ID consult recommended	*Fidaxomicin: Inpatient use is restricted to the treatment of CDI, restricted to ID consultation only, for inpatients who have had CDI recurrence after standard vancomycin followed by extended pulse dose oral vancomycin therapy. Prior authorization is necessary to ensure continuity of care following discharge.*	Vancomycin 125 mg PO QID is the drug of choice on formulary for initial episodes of CDI (nonsevere and severe). - For outpatients, fidaxomicin is an alternative recommended oral therapy. - *Fulminant CDI is defined as CDI with hypotension, shock, ileus and/or toxic megacolon.* Rectal administration of vancomycin and IV metronidazole, and/or high dose vancomycin 500 mg PO may be considered in fulminant cases of CDI. IDSA C. diff Guidelines
Diverticulitis, perirectal abscess, peritonitis	Community-acquired: Enterobacteriaceae, Bacteroides spp.	ceftriaxone + metronidazole	levofloxacin + metronidazole	Community-acquired: < 48h of admission, no hospitalization in past 90d. High-risk: severe physiologic disturbance, advanced age, or immunocompromised state IDSA Intra-abdominal Infection Guidelines

	Community-acquired, high-risk: Enterobacteriaceae, Bacteroides spp., Enterococcus spp., and the possibility of Gram-negative resistance	piperacillin-tazobactam	aztreonam + metronidazole + vancomycin	

	Healthcare-associated or severely ill: same as high-risk community-acquired	piperacillin/tazobactam If patient has any of the following: post-op infections, recent cephalosporins use, immuncompromised, valvular heart disease or prosthetic intravascular material consider adding vancomycin	aztreonam + metronidazole + vancomycin	Both preferred and alternative therapies provide empiric Enterococcal coverage (directed at *E. faecalis*). *E. faecalis* coverage is recommended, especially for those with post-op infection, those who have previously received cephalosporins, immunocompromised patients, and those with prosthetic intravascular material.
Following appendectomy, no perforation		none	none	Surgical prophylaxis only
Following appendectomy, with perforation	Enterobacteriaceae, Bacteroides spp.	ceftriaxone + metronidazole	aztreonam + metronidazole	
Hepatic abscess	Enterobacteriaceae, Bacteroides spp., Enterococcus spp.	ceftriaxone + metronidazole		Blood cultures are recommended. Diagnostic aspiration and/or drainage is often indicated. Consider serologic testing for amoebiasis (*Entamoeba histolytica* antibody IgG)
Pancreatitis-acute/non-necrotizing	noninfectious			No antibiotic therapy necessary

Pancreatitis—acute/necrotizing or infected pseudocyst, abscess	Enterobacteriaceae, Enterococcus spp., *S. aureus, S. epidermidis* , anaerobes, Candida spp.	piperacillin/tazobactam	levofloxacin + metronidazole	Strongly recommend attempting aspiration for microbiologic diagnosis and therapy. Pip/tazo has adequate penetration into pancreatic necrosis, thus carbapenem therapy is not indicated unless patient has history of MDR organisms. Otto, W, et al. HPB (Oxford). 2006; 8(1): 43–48.
Peritonitis--spontaneous bacterial peritonitis (SBP)	*S. pneumoniae*, *K. pneumoniae, E. coli*	ceftriaxone	aztreonam + vancomycin	
Peritonitis--Peritoneal Dialysis related	*S. aureus, S. epidermidis*, Gram-negatives, Candida spp.	vancomycin + cefepime		Contact ID pharmacist on call (55955) for dosing recommendations. Obtain PD fluid for microbiologic diagnosis. Often intraperitoneal therapy is ideal to treat these infections. ISPD PD-Dialysis Related Infection Guidelines