

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
SKIN				
Bite--animal	<i>Pasteurella multocida</i> , Fusobacterium spp, Capnocytophaga spp. (dog bite)	amoxicillin-clavulanate or ampicillin-sulbactam	ciprofloxacin + clindamycin **	More specific therapy depends upon animal involved Evaluate the need for tetanus and/or rabies vaccination
Bite--human	viridans group Streptococcus spp., <i>S.epidermidis</i> , Corynebacterium spp., <i>S. aureus</i> , Eikenella spp., Bacteroides spp., Peptostreptococcus spp., Fusobacterium spp., <i>Prevotella</i> spp.	amoxicillin-clavulanate or ampicillin-sulbactam	ciprofloxacin + clindamycin **	
Boils (furunculosis) or cutaneous abscesses	<i>S. aureus</i> (MSSA and MRSA)	Incision and drainage is the primary treatment. Antibiotic therapy is needed only if associated fever or systemic infection or if extensive surrounding cellulitis is present: trimethoprim-sulfamethoxazole or doxycycline	clindamycin	Hot packs, incision and drainage serves as primary therapy. If incision and drainage is performed, sampling for culture and sensitivity is beneficial. Note: clindamycin resistance is present in > 50% of MRSA isolates. See: IDSA SSTI Guidelines

** Severe allergy to Preferred Therapy only

Cellulitis	Non-purulent: Group A Streptococcus spp., Group B, C, G Streptococcus spp (<i>S. aureus</i> is uncommon in absence of abscess, necrosis, or purulent drainage.)	cefazolin	clindamycin	See Antibiotic Resources for NMH guidelines (Skin and Soft tissue Infection Treatment Algorithm) IDSA SSTI Guidelines
	Purulent: Cellulitis with purulent exudates or at risk for MRSA (Cellulitis associated with penetrating trauma, evidence of MRSA infection elsewhere, nasal colonization with MRSA, injection drug use, purulent drainage, or SIRS)	<u>Mild:</u> incision and drainage <u>Moderate:</u> incision and drainage + trimethoprim-sulfamethoxazole OR doxycycline <u>Severe:</u> incision and drainage + vancomycin		Culture and sensitivities are indicated for deescalation. See IDSA guidelines for MRSA infections, IDSA MRSA Guidelines
Cellulitis--IV catheterrelated	Coagulase-negative Staphylococcus spp., <i>S. aureus</i> (MSSA and MRSA),	Remove catheter + vancomycin		IDSA SSTI Guidelines
Decubitus ulcer	Streptococcus spp., Enterococcus spp, Enterobacteriaceae, Pseudomonas spp., Bacteroides spp., <i>S. aureus</i> (MSSA and MRSA), polymicrobial	Wound care; vancomycin + piperacillin/tazobactam		Consider wound care alone (no antibiotic therapy) with no signs of systemic illness, soft tissue abscess, or local cellulitis. With exposed bone, obtain bone biopsy prior to administering antimicrobials to guide therapy.
Diabetic foot ulcer (superficial) without evidence of surrounding cellulitis or exposed bone	skin flora			No antibiotic therapy necessary

Diabetic foot ulcer- mild; small, only skin with minimal surrounding inflammation, pulses present	Polymicrobial: <i>S. aureus</i> (MSSA and MRSA), streptococcus spp,	amoxicillin-clavulanate or cephalexin	trimethoprim-sulfamethoxazole or doxycycline	See IDSA guidelines for diabetic foot Infections, IDSA Diabetic Foot Guidelines
Diabetic foot ulcer- severe; limb-threatening, skin, subcutaneous, possibly bone, inflammation, fever, neutrophilia	Polymicrobial: <i>S. aureus</i> (MSSA and MRSA), streptococcus spp, coliforms, anaerobes, <i>Pseudomonas aeruginosa</i>	piperacillin/tazobactam +/- vancomycin	clindamycin + ciprofloxacin	Send tissue specimen (bone preferable) for culture prior to starting empiric therapy. See IDSA guidelines for diabetic foot infections, IDSA Diabetic Foot Guidelines
Infected wound-- postoperative	Surgery not involving GI tract: <i>S. aureus</i> (MSSA and MRSA), Group A, B, C, or G Streptococcus spp.	vancomycin + piperacillin/tazobactam	vancomycin + ceftriaxone + metronidazole	IDSA SSTI Guidelines
	Surgery involving GI tract: <i>S. aureus</i> (MSSA and MRSA), coliforms, Bacteroides spp.	vancomycin + piperacillin-tazobactam		
Necrotizing fasciitis	Streptococci (group A, C, G), Clostridium spp., polymicrobial, including <i>S. aureus</i>	vancomycin + clindamycin + piperacillin/tazobactam	For confirmed severe PCN allergy: Aztreonam + vancomycin	Prompt surgical consult for immediate surgical debridement is indicated. If streptococcal necrotizing fasciitis, consider management for toxic shock syndrome. Recommend infectious diseases consult. See: IDSA SSTI Guidelines

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