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
BONE				
Acute osteomyelitis	*Staphylococcus aureus* (MSSA and MRSA)	vancomycin		Bone biopsy and/or tissue biopsy is strongly recommended prior to starting antibiotics if patient is hemodynamically stable.
Acute osteomyelitis in patient with hemoglobinopathy (Sickle cell disease or Thalassemia)	Salmonella spp., other Gram-negatives, *S. aureus*	ceftriaxone +/- vancomycin	ciprofloxacin +/- vancomycin	Bone biopsy and/or tissue biopsy is strongly recommended. Fluoroquinolone resistance is increasingly reported among Salmonella spp.
Long bone status post internal fixation of fracture	*S. aureus, Staphylococcus epidermidis*, Gram-negatives	vancomycin + cefepime		Bone biopsy and/or tissue biopsy is strongly recommended.
Sternum, postoperative	*S. aureus, S. epidermidis*	vancomycin		Bone biopsy and/or tissue biopsy is strongly recommended.
Vertebral osteomyelitis +/- epidural abscess	*S. aureus* most common (including MRSA), other Gram-positives and Gram-negatives also possible	vancomycin + ceftriaxone, OR vancomycin + cefepime if risk factors for *Pseudomonas aeruginosa*	vancomycin + fluoroquinolone OR daptomycin +/- fluoroquinolone	Obtain blood cultures in nonsurgery-associated cases. Bone biopsy and/or tissue biopsy is strongly recommended. In patient with acute neurologic compromise, sepsis, or hemodynamic instability, ok to start empiric treatment prior to collecting bone or tissue cultures. IDSA Native Vertebral OM Guidelines

** Severe allergy to Preferred Therapy only

Contiguous osteomyelitis with vascular insufficiency	polymicrobial			Empiric antibiotic therapy is not recommended; recommend bone biopsy for directed therapy
JOINT				
Septic joint/ at risk for STI	At risk for sexually transmitted infection (STI): *Neisseria gonorrhoeae, S. aureus*, Streptococcus spp., rarely enteric Gram-negative bacilli	ceftriaxone +/- vancomycin	aztreonam + vancomycin	Send blood cultures before antibiotics are started. Early joint aspiration is strongly recommended for cell count, differential, gram stain, crystals, and culture to guide diagnosis. For type-1 penicillin allergy, consult Infectious Diseases and Allergy. If gonorrhea is suspected, cultures from the joint may or may not be positive.
Septic Joint- not at risk for STI	*S. aureus* (MSSA and MRSA), Streptococcus spp., Gram-negative bacilli	vancomycin + ceftriaxone	vancomcyin + aztreonam	
Prosthetic joint infection	*S. aureus* (MSSA and MRSA), *S. epidermidis* , Streptococcus spp., rarely Gram-negative bacilli	vancomycin		See IDSA Prosthetic Joint Infection Guidelines