Sharp Healthcare Treatment Guidelines for Empiric Sepsis Treatment Based on Suspected Source

Selecting Antimicrobial Agent(s)	MDRO Risk Factors (Consider ID Consultation*)
• Review pathogen history • Review for recent exposure to antimicrobial agents	• Prior history of MDROs • IV antibiotics within past 90 days, hospital stay ≥5 days

All regimens included in the sepsis antibiotic recommendations are considered safe alternatives in patients with penicillin allergy, including Type I allergic reaction (i.e. anaphylaxis) unless denoted otherwise (see Policy 43008 Cephalosporin administration to Penicillin-allergic Patients).

*Particularly for patients with history of carbapenem-resistant organisms (e.g. KPC, CRE) given high associated mortality, the recommended regimens below may or may not provide adequate coverage for such organisms.

Suspected Source	Sepsis/Severe Sepsis	Septic Shock or Other Specific Risk Factors
Community acquired pneumonia (CAP)	Ceftriaxone 2g IV q24h + Azithromycin 500mg IV q24h	• *Pseudomonas risk*[1]: Cefepime 2g IV q8h + Azithromycin 500mg IV q24h +/- Tobramycin 7mg/kg IV x1 if septic shock • *MRSA risk*[2]: add Vancomycin[3,4] IV or Linezolid 600mg IV q12h
Nosocomial Pneumonia HAP/VAP	Cefepime 2g IV q8h + [Vancomycin[3,4] IV or Linezolid 600mg IV q12h]	• *If septic shock:* Cefepime 2g IV q8h + [Vancomycin[3,4] IV or Linezolid 600mg IV q12h] +/- Tobramycin IV 7mg/kg x1 • *ESBL hx*: Meropenem 500mg IV q6h + [Vancomycin[3,4] IV or Linezolid 600mg IV q12h]
Urinary tract	Ceftriaxone 2g IV q24h	• *ESBL hx (w/in 6 mo):* Ertapenem 1g IV q24h • *ESBL hx (w/in 6 mo) and septic shock*: Meropenem 500mg IV q6h
Intra-abdominal	Ceftriaxone 2g IV q24h + Metronidazole 500mg IV q8h	• *Septic shock*: Zosyn 4.5g IV q8h • *Septic shock and PCN allergy*: Cefepime 2g IV q8h + Metronidazole 500mg IV q8h • *ESBL hx*: Meropenem 500mg IV q6h
Cellulitis	Cefazolin 2g IV q8h	• *Septic shock:* Zosyn 4.5 g IV q8h + Linezolid 600mg IV q12h • *Septic Shock and PCN allergy*: Cefepime 2g IV q8h + Linezolid 600mg IV q12h
Abscess	Vancomycin[2,3] IV or Linezolid[3] 600mg IV q12h	
Necrotizing Skin and Soft Tissue including fasciitis, Gas Gangrene	Zosyn 4.5g IV q8h + Linezolid 600mg IV q12h	
Diabetic Foot/Wound/Ulcer	Unasyn 3g IV q6h OR Ceftriaxone 2g IV q24h + Metronidazole 500mg IV q8h	• *Pseudomonas and MRSA risk factors*[5]: Zosyn 4.5g IV q8h + [Vancomycin[3] IV or Linezolid 600mg IV q12h] • *Pseudomonas and MRSA risk factors and PCN allergy:* Cefepime 2g IV q8h+ Metronidazole 500mg IV q8h+ [Vancomycin[3] IV or Linezolid 600mg IV q12h] • *ESBL hx*: Meropenem 500mg IV q6h + [Vancomycin[3] IV or Linezolid 600mg IV q12h]
Unknown Source	Zosyn 4.5g IV q8h + Vancomycin[3] IV	• *PCN allergy*: Cefepime 2g IV q8h + Vancomycin[3] IV +/- Metronidazole 500mg IV q8h • *ESBL hx*: Meropenem 500mg IV q6h + Vancomycin[3] IV
OB/GYN	Zosyn 4.5g IV q8h +/- [Clindamycin 900mg IV q8h or Linezolid 600mg IV q12h][6,7]	• *PCN allergy*: Cefepime 2g IV q8h + Metronidazole 500mg IV q8h +/- [Clindamycin 900mg IV q8h or Linezolid 600mg IV q12h][6,7] • *ESBL hx*: Meropenem 500mg IV q6h +/- [Clindamycin 900mg IV q8h or Linezolid 600mg IV q12h][6,7]

1 Prior respiratory isolation of Pseudomonas, IV ABX in last 90 days, structural lung disease

2 if MRSA isolated from clinical site (not just from nares) the last year; consider for post-influenza pneumonia, cavitary pneumonia, empyema

3 For patients with allergic reactions (excluding vancomycin infusion reaction) to vancomycin or a history of vancomycin resistant enterococcus (VRE), substitutewith Daptomycin 6mg/kg IV q24h for non-respiratory infections. For respiratory infections, substitute with Linezolid 600mg IV Q12H. For patients with red man syndrome to vancomycin, please re-challenge with vancomycin slow infusion +/- premedication.

4 Consider de-escalating if no MRSA identified

5 Pseudomonas risk factors: moist appearance +/- pus, significant water or warm tropical exposure, hx from deep cultures. MRSA risk factors: known colonization or prior hx, IVDU, recent healthcare exposure, environmental exposure (incarcerated, military, child care centers, contact sports, sharing sharp objects), IV abx in past 6 months

6 Add linezolid or clindamycin for anti-toxin effect if suspected severe streptococcal infection or presence of toxic shock syndrome. Treatment of anti-toxin effect is for a duration of 48-72 hours of clinical hemodynamic stability.

7 Consider adding doxycycline 100 mg IV/PO q 12h for septic abortion or retained products of conception. Doxycycline may be considered when there is a need for coverage of atypical pathogens (i.e. Mycoplasma or Ureaplasma) in the following clinical settings (1) early (< 22 weeks gestational age) spontaneous abortion who undergo surgical uterine aspiration, (2) induced surgical abortion at any gestational age, or (3) lack of clinical improvement while on appropriate antibiotics.