SHC Sepsis Empiric Antibiotic Selection Guide

Refer to SHC Bugs and Drugs Website for complete guidelines.
SHC Antibiotic Dosing Guide and SHC Obesity Dosing Guide for renal and obesity dose adjustments

- This reference guide summarizes the preferred empiric antibiotic choices for common infections in patients with normal renal function. Refer to the syndrome-specific guideline once a syndrome has been identified.
- This is not a comprehensive document and is intended to provide a quick reference for pharmacists during Code Sepsis for common infections.
- De-escalation: All empiric regimens should be tailored to culture results. Tailoring antibiotics to the organism that grows is critical to ensuring that the patient is adequately covered, but not on an unnecessarily broad regimen. Antibiotics should be discontinued if there is no longer a concern for infection.
- Severe beta-lactam allergy: High-risk allergies include angioedema, anaphylaxis, wheezing, laryngeal edema, hypotension, SJS/TEN, DRESS, etc. Please see Antibiotic Allergy Rationale document for details.

Suspected Source of Infection		Empiric Antibiotic Regimen	Comments
Pneumonia SHC Inpatient Pneumonia Guide	***CAP***	Primary Regimen: **Ceftriaxone** 2g IV Q24H + **Azithromycin** 500mg IV q24h Risk factors for Pseudomonas[#]: Replace ceftriaxone with **cefepime** 2g IV Q8H Risk factors for MRSA [#]: Add **Vancomycin Per Pharmacy** Severe beta-lactam allergy: - **Levofloxacin** 750mg IV Q24H monotherapy - *P. aeruginosa* risk factors[#]: **Aztreonam** 2g IV Q8H + **Levofloxacin** 750mg IV Q24H	MRSA and P. aeruginosa risk factors[#]: - *P. aeruginosa* isolated from respiratory cultures within the last year - MRSA isolated from respiratory culture within 1 year - IV antibiotic use during a hospitalization in the last 90-days Previous microbiology results should guide antibiotic choice
	HAP / VAP	Primary Regimen: *Select One*: - *Preferred*: **Cefepime** 2g IV Q8H - **Piperacillin/tazobactam** 4.5g IV Q8H over 4 hours - **Meropenem** 1g IV Q8H (History of ESBL isolation) If MRSA NARES+ or no recent results: Add **Vancomycin Per Pharmacy** Severe beta-lactam allergy: **Aztreonam** 2g iv q8h + **Vancomycin per Pharmacy** +/- **Tobramycin** 5-7 mg/kg x 1	MDR P. aeruginosa risk factors: Second anti-pseudomonal can be considered if: - Rapid infectious decompensation - Significant risk for resistance Previous microbiology results should guide antibiotic choice.

Suspected Source of Infection		Empiric Antibiotic Regimen	Comments
Urinary Tract Infection SHC UTI Guideline		Low-risk for resistant bacteria: - **Ceftriaxone** 2g IV Q24H High-risk for resistant bacteria: *Select One*: - **Cefepime** 1g Q8H - **Ertapenem** 1g IV Q24H (History of ESBL isolation) - **Piperacillin-tazobactam** 3.75g IV Q8H Severe beta-lactam allergy: **Aztreonam** 2g IV Q8H	Risk factors for resistant bacteria: - Blood or urine culture with resistant organism in the past 12 months - Fluoroquinolone exposure within the past 12 months GPC on urine Gram-Stain: - May consider adding **Vancomycin per Pharmacy** Previous microbiology results should guide antibiotic choice.
Intra-abdominal Infection SHC IAI Guideline	***Community-Acquired***	Primary Regimen: **Piperacillin-tazobactam** 4.5g IV Q8H over 4 hours Alternative: **Cefepime** 2g IV Q8H + **Metronidazole** 500mg IV Q8H (regimen does not provide enterococcal coverage**) Severe beta-lactam allergy: **Aztreonam** 2g IV Q8H + **Metronidazole** 500mg IV Q8H + V**ancomycin Per Pharmacy**	MRSA risk factors*: - May be considered for hospital-acquired infection with known MRSA colonization or invasive infection within the past year - Add **Vancomycin Per Pharmacy.** Vancomycin should be discontinued at 48-hours if MRSA is not recovered from cultures. Risk for Enterococcus**: - Risk factors include hospital-acquired infection, post-operative infection, recent cephalosporin use, and immunocompromised state - May consider adding **Vancomycin Per Pharmacy** Risk for VRE***: - Consider empiric VRE coverage in septic or severely ill patients with known colonization or prior invasive infection. - Add **Linezolid** 600mg IV BID
	Healthcare-Associated	Primary Regimen: **Piperacillin-tazobactam** 4.5g IV Q8H over 4 hours Alternatives: - **Meropenem** 1g IV Q8H (History of ESBL isolation) - **Cefepime** 2g IV Q8H + **Metronidazole** 500mg IV Q8H (regimen does not provide enterococcal coverage**) Risk factors for MRSA* or enterococcus**: Add **Vancomycin Per Pharmacy** Risk factors for VRE***: Add **Linezolid** 600mg IV Q24H Severe beta-lactam allergy: **Aztreonam** 2g IV Q8H + **Metronidazole** 500mg IV Q8H + **Vancomycin per Pharmacy**	

Suspected Source of Infection		Empiric Antibiotic Regimen	Comments
Skin & Skin Structure Infections SHC Skin & Skin Structure Infection Guide		Non-purulent SSTI / Cellulitis - **Cefazolin** 2g IV Q8H Necrotizing Fasciitis, Clostridial Gas Gangrene, Myonecrosis: - **Piperacillin-tazobactam** 4.5g IV Q8H over 4 hours + **Vancomycin Per Pharmacy** + **Clindamycin** 600-900mg IV Q8H Cellulitis with Special Risk Factors[&]: **Cefepime** 2g IV Q8H **+ Metronidazole** 500mg IV Q8h + **Vancomycin Per Pharmacy** Severe beta-lactam allergy: **Aztreonam** 2g IV Q8H **+ metronidazole** 500mg IV Q8H **+ Vancomycin Per Pharmacy**	Special Risk Factors[&]: - Malignancy on chemotherapy, neutropenia, severe cell-mediated immunodeficiency, immersion injuries, animal bites, diabetic foot ulcers
Bacterial Meningitis	***Community-Acquired***	Primary Regimen: **Ceftriaxone** 2g IV Q12H + **Vancomycin Per Pharmacy** Non-severe Cephalosporin Allergy: **Meropenem** 2g IV Q8H + **Vancomycin Per Pharmacy** Severe beta-lactam allergy: **Moxifloxacin** 400mg IV Q24H **+ Vancomycin Per Pharmacy** Age > 50 years of age; or Immunocompromised: ***Add* Ampicillin** 2g IV Q4H to Primary Regimen Severe beta-lactam allergy: Replace Ampicillin with **TMP/SMX** 5 mg/kg q6-8h (Only covers Listeria monocytogenes)	>50 years of age / Immunocompromised: - Increased risk for Listeriosis; add **Ampicillin** to primary regimen
	Healthcare-Associated	Post-Trauma or Post-neurosurgery **Cefepime** 2g IV Q8H **+ Vancomycin Per Pharmacy** Severe beta-lactam allergy: **Aztreonam** 2g IV Q6-8H + **Vancomycin Per Pharmacy**	Previous microbiology results should guide antibiotic choice.

<table>
<tr><th colspan="2">Suspected Source of Infection</th><th>Empiric Antibiotic Regimen</th><th>Comments</th></tr>
<tr><td rowspan="2">No Apparent Source of Infection

or

Vascular Access Device Infection</td><td>Community-Acquired</td><td>Primary Regimen:
Vancomycin Per Pharmacy
PLUS (select one):
Ceftriaxone 2g IV Q24H
Ertapenem 1g IV Q24H (History of ESBL isolation)
Piperacillin/tazobactam 3.375g IV Q8H over 4 hours

Severe beta-lactam allergy:
Aztreonam 2g IV Q8H + Metronidazole 500mg IV Q8H + Vancomycin Per Pharmacy</td><td rowspan="2">Previous microbiology results should guide antibiotic choice.</td></tr>
<tr><td>Healthcare-Associated</td><td>Primary Regimen:
Vancomycin Per Pharmacy
PLUS (select one):
Piperacillin/Tazobactam 3.375g IV Q8H over 4 hours
Cefepime 2g IV Q8H
Meropenem (History of ESBL isolation)

Severe beta-lactam allergy:
Aztreonam 2g IV Q8H + Metronidazole 500mg IV Q8H + Vancomycin Per Pharmacy</td></tr>
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DOCUMENT INFORMATION

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