

**VANDERBILT UNIVERSITY MEDICAL CENTER DIVISION
OF TRAUMA AND SURGICAL CRITICAL CARE**

TRAUMA ANTIMICROBIAL STEWARDSHIP PROTOCOL

Purpose: To guide appropriate antimicrobial use and decrease microbial resistance in the trauma unit.

Background: Appropriate empiric therapy is critical for decreasing mortality associated with severe infections. Empiric regimens should be chosen based on local antibiograms, common bacteria associated with the suspected infection, and patient specific factors. Rotation of antimicrobials is not currently recommended by the IDSA as a strategy to reduce antibiotic resistance, as data do not support its use. Guidelines for empiric antimicrobial utilization and dosing and appropriate de-escalation strategies allow for hospitals to optimize treatments of infections.

Components:

Antibiotic prophylaxis protocols

(≤ 24hrs - narrow spectrum antibiotics)

- Perioperative abdominal trauma
- Orthopedic fractures
- Craniofacial trauma

Guideline driven diagnosis of hospital infections

- Quantitative BAL for diagnosis of VAP
 - Quantitative culture ≥ 10⁴ CFU/mL
- Targeted empiric therapy – only when suspected source identified

Empiric antibiotic protocols

- Empiric antibiotics directed by unit specific antibiogram
- Indication specific empiric antibiotic therapy
 - Pneumonia (CAP*/HAP[^]/VAP[#])
 - Non-pneumonia – sepsis caused by a non-pneumonia source (bloodstream, intra-abdominal, or unknown)*
- De-escalation therapy
- Evidence based antibiotic treatment duration

*Simple urinary tract infections are not included in this empiric protocol.

Indication-Specific Preferred Empiric Antibiotics:

	CAP*	VAP [^] or HAP [#]	Intra-abdominal Infection**	Bacteremia
Empiric Antibiotic	Ceftriaxone (+) Azithromycin	Vancomycin (+) Cefepime	Piperacillin/tazobactam (+/-) Vancomycin (+/-) Fluconazole	Vancomycin (+) Cefepime

*Community- acquired pneumonia (CAP) is defined as a pneumonia acquired outside of the hospital setting

[^]Ventilator-acquired pneumonia (VAP) is defined as a pneumonia occurring greater than 48 hours after endotracheal intubation.

[#]Hospital-acquired pneumonia (HAP) is defined as a pneumonia not incubating at the time of hospital admission and occurring 48 hours or more after admission and includes ventilator-associated pneumonia.

****Intra-abdominal Infection Protocol Considerations:**

- Consider addition of fluconazole for:
 - Upper gastrointestinal perforations
 - Recurrent bowel perforations
 - Surgically treated pancreatitis
 - Candida growth on cultures
 - Known colonization with candida
 - Immunocompromised patients
- Consider addition of vancomycin for:
 - Prior MRSA infection

- Recent hospitalization and/or nursing facility exposure

- Intravenous antibiotic use within the past 90 days

References

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