Trauma Center Practice Management Guideline

Iowa Methodist Medical Center — Des Moines

Pneumonia Clinical Pathway for Trauma Patients
IMMC/ILH Adult Critical Care Areas

ADULT **Practice Management Guideline**	**Effective: 06/2014**
Contact: Trauma Center Medical Director	**Last Revised: 07/2017**

Steps to follow before starting antibiotics:

- ☐ Chest X-ray (normal CXR excludes VAP)
- ☐ Blood cultures x 2 from separate sites
- ☐ Lower respiratory tract sampling for culture, either option:
  - Sputum sample
  - Endotracheal aspiration (if intubated)

Begin Empiric Treatment**

Hospitalized <48 hours
Community-acquired pneumonia

Ceftriaxone 2 grams IV daily

PLUS

Azithromycin 500mg IV daily

If concern for aspiration, add:
Metronidazole 500mg IV q 8 hours

Hospitalized >48 hours
Hospital-acquired pneumonia

No high mortality risk factors
(See back of form for risk factors)

Piperacillin/tazobactam per policy
OR
Cefepime 2 g IV q 8 hrs

PLUS
Vancomycin 15-20 mg/kg IV q 8-12 hrs

High mortality risk factors or received IV antibiotics in the past 90 days
(See back of form for risk factors)

Piperacillin/tazobactam per policy
OR
Cefepime 2 g IV q 8 hrs

PLUS
Vancomycin 15-20 mg/kg IV q 8-12 hrs

PLUS
Levofloxacin 750 mg IV daily
OR
Tobramycin 7 mg/kg IV daily

Intubated >48 hours
Ventilator-associated pneumonia

Piperacillin/tazobactam per policy
OR
Cefepime 2 g IV q 8 hrs

PLUS
Vancomycin 15-20 mg/kg IV q 8-12 hrs

PLUS
Levofloxacin 750 mg IV daily
OR
Tobramycin 7 mg/kg IV daily

OR

Meropenem per hospital policy
PLUS
Vancomycin 15-20 mg/kg IV q 8-12 hrs

REASSESS antibiotic therapy and patient clinical response at **48-72 hours**

- **De-escalate** antibiotic therapy based on culture results & clinical response.
- Recommend **duration of therapy** = 7 days (*Pseudomonas* or *Acinetobacter* infections should be treated for a minimum of 7 days and reassess the need to extend treatment to 10-14 days total.)
- Refer to the back of this form for further recommendations.

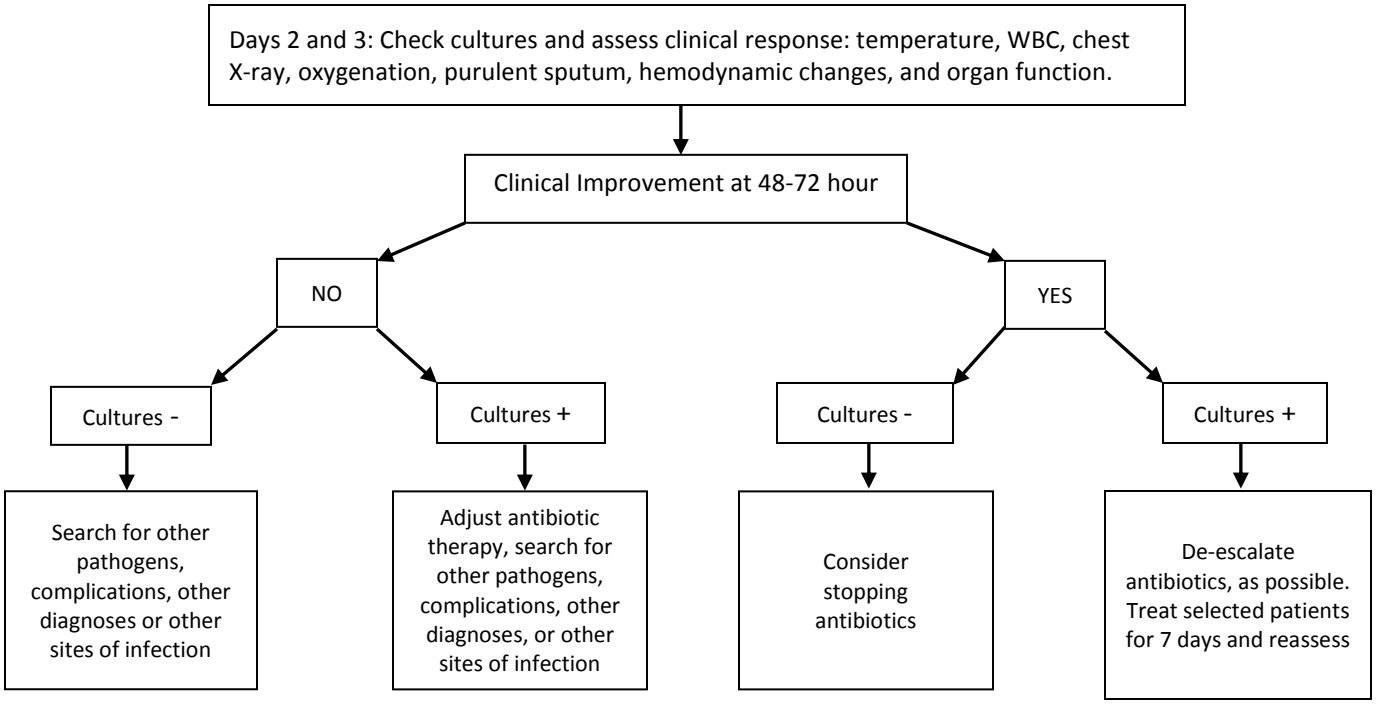
****Pharmacy will adjust dose if indicated based on renal function and will manage vancomycin and tobramycin per protocol, unless otherwise indicated.**

HIGH MORTALITY RISK FACTORS:

- Septic shock due to pneumonia
- Need for ventilator support

ANTIBIOTIC considerations:

- Empiric regimens to include a different antibiotic class than the patient has already received.
- SEVERE PENICILLIN ALLERGIC PATIENTS: Consider Aztreonam or Meropenem or contact the pharmacy for consultation for severe allergy.
- De-escalation to occur in accordance with algorithm below
- Consider combination antibiotic therapy for SPACE bugs (*Serratia, Pseudomonas, Acinetobacter, Citrobacter, Enterobacter* species).
    - Combination should include a beta-lactam and either an aminoglycoside or quinolone.
    - Second agent (aminoglycoside or quinolone) can be stopped after 5 days or when susceptibility is known.
- If ESBL (extended-spectrum beta-lactamase) (+) strain, use antibiotic for definitive therapy based on susceptibility testing.
- If Acinetobacter species known or suspected, use a fluoroquinolone or piperacillin/tazobactam.
- If *Legionella pneumophilia* known or suspected, use a macrolide or quinolone.
- DURATION OF THERAPY: Efforts should be made to shorten the duration of therapy to periods as short as 7 days provided that the etiologic pathogen is not *Pseudomonas* and that the patient has a good clinical response with resolution of clinical features of infection.
- *Pseudomonas* or *Acinetobacter* infections should be treated for a minimum of 7 days and reassess the need to extend treatment to 10-14 days total.



Reference:

Kalil AC, et all. Management of adults with Hospital-acquired and Ventilator-associated Pneumonia: 2016 Clinical Practice Guidelines by the Infectious Diseases Society of America and the American Thoracic Society. Clin Infect Dis. 2016;63(5):e61