ANMC Inpatient Adult Community-Acquired Pneumonia (CAP) Guideline

Severity and Risk Factor Considerations

Major Criteria:
- Septic shock with need for vasopressors
- Respiratory failure requiring mechanical ventilation

Minor Criteria:
- Respiratory rate ≥ 30 breaths/min
- Pao2/Flo2 ratio ≤ 250
- Multilobar infiltrates
- Confusion/disorientation
- Uremia (BUN ≥ 20 mg/dl)
- Leukopenia (WBC < 4,000 cells/µl)
- Thrombocytopenia (plts <100,000/µl)
- Hypothermia (<36° C)
- Hypotension requiring aggressive fluid resuscitation

****NOTE:** Prior categorization of healthcare-associated pneumonia (HCAP) has been abandoned. The following are **NOT** predictive of multi-drug resistant pneumonia and should **NOT** be used alone as an indication for empiric broad-spectrum coverage:
- Hospitalized in an acute care hospital for 2 or more days within 90 days of infection
- Resided in a nursing home or long term care facility
- Received recent chemotherapy or wound care in last 30 days
- Attended a hemodialysis clinic in the last 30 days

Treatment Recommendations

Infection	Standard Treatment	Prior MRSA / *Pseudomonas* in Respiratory Culture#	Hospitalized within 90 days PLUS IV antibiotics#	Duration
Non-Severe	**Preferred Therapy:** ○ **Ampicillin/Sulbactam 3g** IV q6h **PLUS** **Azithromycin 500mg** PO/IV q24hr x3 days OR ○ **Ceftriaxone 1g** IV q24hr **PLUS** **Azithromycin 500mg** PO/IV q24hr x3 days **Anaphylactic β-Lactam Allergy:**¥ ○ **Levofloxacin 750mg** PO/IV q24hr	**History of MRSA (Add):** ○ **Vancomycin 15mg/kg** (Pharmacy to Dose) OR ○ **Linezolid 600mg** PO/IV BID **History of *P. aeruginosa*:** ○ **Cefepime 1g** IV q8h extended infusion	○ **WITHHOLD** empiric treatment for MRSA or *P. aeruginosa* ○ If cultures return positive for MRSA or *P. aeruginosa*, escalate therapy based on cultures & susceptibilities	○ **5 days** for patients **without** immunosuppression or structural lung disease ○ **7 days** for patients with **moderate** immunosuppression or structural lung disease ○ **10-14 days** for poor clinical response, initial inappropriate tx, or **significant** immunosuppression Patients should be afebrile for 48-72hr and demonstrate signs of clinical stability before therapy is discontinued
Severe (1 major or ≥ 3 minor criteria)	**Preferred Therapy:** ○ **Ampicillin/Sulbactam 3g** IV q6h **PLUS** **Azithromycin 500mg** PO/IV q24hr x3 days OR ○ **Ceftriaxone 1g** IV q24hr **PLUS** **Azithromycin 500mg** PO/IV q24hr x3 days **Anaphylactic β-Lactam Allergy:**¥ ○ **Levofloxacin 750mg** PO/IV q24hr **+/-** **Vancomycin 15mg/kg** (Pharmacy to Dose)	**History of MRSA (Add):** ○ **Vancomycin 15mg/kg** (Pharmacy to Dose) OR ○ **Linezolid 600mg** PO/IV BID **History of *P. aeruginosa*:** ○ **Cefepime 1g** IV q8h extended infusion	**Empiric MRSA treatment (Add):** ○ **Vancomycin 15mg/kg** (Pharmacy to Dose) OR ○ **Linezolid 600mg** PO/IV BID **Empiric *P. aeruginosa* treatment:** ○ **Cefepime 1g** IV q8h extended infusion	
Aspiration pneumonia	○ Addition of anaerobic therapy is **NOT** recommended unless lung abscess or empyema is suspected			
Suspected or confirmed Influenza	○ **Oseltamivir 75mg** PO BID∞ x5 days			
Oral options to consider for de-escalation of β-lactam (total duration IV + PO as above)	**Preferred Therapy:** ○ **Amoxicillin 1g** PO TID^ ○ **Augmentin 875mg** BID ▪ **Consider additional** **Amoxicillin 1g** BID in addition to **Augmentin** for CAP complicated by empyema, asplenia or *Strep pneumo* PenG MIC 2-4 **Non-Anaphylactic Penicillin Allergy:** ○ **Cefuroxime axetil 500mg** PO BID			

Consideration

- # If empiric treatment for MRSA or *P. aeruginosa,* blood and respiratory cultures should be collected prior to antibiotic administration.
  - If cultures are negative or no drug resistant organisms identified at 48-72 hours, narrow to standard treatment or based on culture results.
- ¥ Consider allergy/immunology referral for penicillin skin-testing and allergy de-labeling
- ∞ Higher doses of Tamiflu have not been associated with improved outcomes
- ^ Strep pneumo or cefinase negative *H.influenzae* / *M.cattarhalis,* use high-dose **amoxicillin**
- Consider Procalcitonin if question of pneumonia diagnosis or acute exacerbation of COPD, see ANMC Procalcitonin guideline for further guidance.

ANMC Associated Powerplan: ABX Adult CAP — Antimicrobial Stewardship Approved August 2017; Updated December 2019

Metlay JP, et al. Diagnosis and treatment of adults with community-acquired pneumonia, an official clinical practice guideline of the American Thoracic Society and Infectious Diseases Society of America. *Am J Respir Crit Care Med*. 2019; 200(7):e45-e67.