OUTPATIENT ANTIBIOTIC TREATMENT GUIDELINES FOR COMMUNITY-ACQUIRED PNEUMONIA IN ADULTS

Clinical diagnosis of pneumonia (i.e., clinical symptoms, fever, and/or radiographic findings consistent with pneumonia)
AND
Ruled out other diagnoses (i.e., bronchitis, COPD)

*Use of this pathway is indicated only for cases where pneumonia is believed to be present. Antibiotics are not recommended for bronchitis. Consider chest x-ray to aid in diagnosis, when necessary

Consider COVID-19 testing if:
Any one of the following:
• Fever (T > 100.4°F or 38°C) or chills
• New cough
• New shortness of breath
• Public health department recommended testing due to an exposure to COVID-19
Or any two of the following:
• New muscle aches
• New headaches
• New URI symptoms (rhinorrhea, nasal congestion, sore throat)
• New loss of sense of smell or taste
• New nausea, vomiting, or diarrhea
• New rash
• Close Contact Exposure to someone with COVID-19

Refer to COVID-19 Testing Guidance

Influenza season?
Yes
• Known contact
• Acute, abrupt onset
• Combination of symptoms including high fever, headache, malaise, myalgias, and/or cough

Refer to Adult Influenza Treatment Guidelines

If not candidate for COVID testing, Or negative for COVID

Influenza season?
No

If not a candidate for influenza testing, Or negative for influenza

Initiate pneumonia treatment as specified below

Procalcitonin should not be used in isolation to decide whether to initiate antibiotics in patients with suspected bacterial pneumonia. Refer to UMHS Procalcitonin Usage Guidelines for more information
<table>
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<th>Patient Population</th>
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| **Outpatient without comorbidities or risk factors for antibiotic resistant pathogens*** | **Preferred***:  
Amoxicillin-clavulanate 875-125 mg PO twice daily  
(Doxycycline 100 mg PO twice daily  
*If high clinical suspicion for atypical pneumonia*, recommend doxycycline monotherapy  
**If no response to amoxicillin-clavulanate at 48 hours, consider addition of doxycycline  
***If patient presents already on azithromycin and not improving at 48 hours, recommend initiation of amoxicillin-clavulanate | 5 days (If afebrile by day 3 of treatment, and overall symptoms improving by day 5)  
For patients with delayed response, discontinue therapy when afebrile for 48-72 hours and clinically stable. Cough or sputum production alone should not be used as the sole reason to continue antibiotic therapy longer than 5 days |  
• In patients who demonstrate rapid clinical improvement within 3 days of therapy, consider antibiotic discontinuation on day 3, given data supporting short course (3 day) treatment.  
• Azithromycin resistance occurs in up to 40% of S. pneumonia  
• See β-lactam Allergy Evaluation and Empiric Therapy Guideline for management of patients with β-lactam allergies  
• Adjust amoxicillin-clavulanate, cefuroxime, and levofloxacin for renal dysfunction. Always give levofloxacin loading dose of 750 mg x1 dose followed by maintenance dose based on dosing interval  
• Provide patient education for doxycycline: avoid sun exposure, do not take with dairy or divalent/trivalent cations (multivitamins, supplements), do not lay down 30 minutes after administration  
• Provide patient education for levofloxacin: do not take with dairy or divalent/trivalent cations (multivitamins, supplements)  
• For patients with prior pneumonia consider previous microbiology for empiric antibiotic selection  

**Target pathogens:**  
*S. pneumoniae*  
*H. influenzae*  
*Prior respiratory isolation of MRSA or P. aeruginosa OR recent hospitalization AND receipt of intravenous antibiotics in the last 90 days |

| **Outpatient with comorbidities (chronic heart disease, chronic lung disease, chronic liver disease, chronic renal disease, diabetes mellitus, alcoholism, malignancy, and/or asplenia)** | **Preferred**:  
Amoxicillin-clavulanate 875-125 mg PO twice daily  
(Doxycycline 100 mg PO twice daily  
OR  
Azithromycin 500 mg x1 then 250 mg daily (if allergy or intolerance to doxycycline)  
Low/medium risk PCN allergy:  
Cefuroxime 500 mg PO twice daily  
(Doxycycline 100 mg PO twice daily  
OR  
Azithromycin 500 mg x1 then 250 mg daily (if allergy or intolerance to doxycycline)  
High risk PCN and cephalosporin allergy:  
Levofloxacin 750 mg PO daily*  
*Fluoroquinolones are not preferred and should be used only when no other options are appropriate/safe  

Atypical pneumonia is characterized by slow progression of symptoms (over 3-5 days); typical signs/symptoms include, but are not limited to: malaise, sore throat, headache, cough, low-grade fever and non-focal auscultatory and chest x-ray findings
References:


2. el Moussaoui et al. Effectiveness of discontinuing antibiotic treatment after three days versus eight days in mild to moderate-severe community acquired pneumonia: randomised, double blind study. *BMJ.* 2006 Jun; 332(7554):1355.


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The recommendations in this guide are meant to serve as treatment guidelines for use at Michigan Medicine facilities. If you are an individual experiencing a medical emergency, call 911 immediately. These guidelines should not replace a provider’s professional medical advice based on clinical judgment, or be used in lieu of an Infectious Diseases consultation when necessary. As a result of ongoing research, practice guidelines may from time to time change. The authors of these guidelines have made all attempts to ensure the accuracy based on current information, however, due to ongoing research, users of these guidelines are strongly encouraged to confirm the information contained within them through an independent source.

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