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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

Yes

Active COVID-19 diagnosis?

Yes → **Refer to COVID-19 Outpatient Treatment Guidelines**
Do not initiate CAP treatment

No → **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

If not candidate for COVID testing, Or negative for COVID

Influenza season?

Yes → **Consider influenza testing if:**
- 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 a candidate for influenza testing, Or negative for influenza

No

Initiate pneumonia treatment as specified below

Recommend **against** routine collection of respiratory secretions and blood culture in adults with CAP managed in the outpatient setting

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

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Patient Population	Empiric Therapy	Duration of Therapy	Comments & References
Outpatient <u>without</u> comorbidities or risk factors for antibiotic resistant pathogens* <u>Target pathogens:</u> *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	<u>Preferred*:</u> **Amoxicillin-clavulanate** 875-125 mg PO twice daily <u>Alternatives:</u> **Doxycycline** 100 mg PO twice daily *If high clinical suspicion for atypical pneumonia[1], 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[2,3] • 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
Outpatient with comorbidities (chronic heart disease, chronic lung disease, chronic liver disease, chronic renal disease, diabetes mellitus, alcoholism, malignancy, and/or asplenia) <u>Target pathogens:</u> *S. pneumoniae* *H. influenzae* *M. catarrhalis* *M. pneumoniae* *C. pneumoniae*	<u>Preferred:</u> **Amoxicillin-clavulanate** 875-125 mg PO twice daily **+ Doxycycline** 100 mg PO twice daily <u>OR</u> (if allergy or intolerance to doxycycline) **Amoxicillin-clavulanate** 875-125 mg PO twice daily **+ Azithromycin** 500 mg x1 then 250 mg daily <u>Low/medium risk PCN allergy:</u> **Cefuroxime** 500 mg PO twice daily + **Doxycycline** 100 mg PO twice daily <u>OR</u> (if allergy or intolerance to doxycycline) **Cefuroxime** 500 mg PO twice daily **+ Azithromycin** 500 mg x1 then 250 mg daily <u>High risk PCN and cephalosporin allergy:</u> **Levofloxacin** 750 mg PO daily* *Fluoroquinolones are not preferred and should be used only when no other options are appropriate/safe		

[1]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, lowgrade fever and non-focal auscultatory and chest x-ray findings

References:

1. 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 Oct; 200(7):e45-e67.
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.
3. Dinh et al. Discontinuing β-lactam treatment after 3 days for patients with community-acquired pneumonia in non-critical care wards (PTC): a double-blind, randomised, placebo-controlled, non-inferiority trial. Lancet. 2021 Mar; 397(10280):1195-1203.

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