



Community-Acquired Pneumonia

Outpatient to ICU · ATS/IDSA 2019, with the 2025 ATS update on steroids and duration

SEVERITY

decides everything

WHAT CHANGED IN THE 2025 ATS UPDATE

Steroids: now a **conditional recommendation FOR** systemic steroids in **severe** CAP (2019 suggested against), and a **strong recommendation AGAINST** them in nonsevere CAP. **Duration:** in the clinically stable patient, **shorter is now preferred, under 5 days with a 3-day minimum**, for outpatients and nonsevere inpatients; **severe CAP still gets 5 days or more** (strong). **Viral detection:** a healthy outpatient with a virus and no comorbidity **does not need antibiotics**. **Lung ultrasound** is an acceptable alternative to chest radiography. Empiric regimens, severity criteria and workup are unchanged from 2019.

DECIDE WHERE THEY GO *site of care is the first and highest-stakes decision*

ADMIT OR NOT: USE PSI

The **Pneumonia Severity Index** is preferred over CURB-65, being better validated for identifying patients safe for outpatient care. **PSI I–III go home** unless a comorbidity is unstable or they cannot take oral therapy; **PSI IV–V are admitted**. Never let the score override a patient who looks unwell or has no social support.

ICU OR NOT: THE ATS/IDSA CRITERIA

Severe CAP = 1 major (mechanical ventilation, or septic shock on vasopressors) or 3 or more minor: RR ≥ 30 · P/F ≤ 250 · multilobar · confusion · uremia (BUN ≥ 20) · leukopenia ($< 4,000$) · thrombocytopenia ($< 100,000$) · hypothermia ($< 36^{\circ}\text{C}$) · hypotension needing aggressive fluids. **This label drives the antibiotic, the steroid and the duration.**

EMPIRIC ANTIBIOTICS BY SETTING *2019 regimens, unchanged in 2025*

Setting	Regimen	Why, and what to watch
Outpatient <i>no comorbidities</i>	Amoxicillin 1 g PO TID, or doxycycline 100 mg PO BID. A macrolide alone only where pneumococcal resistance is under 25%.	Macrolide monotherapy was demoted in 2019 because US pneumococcal resistance now exceeds 25% in most regions. Check your antibiogram before reaching for azithromycin.
Outpatient <i>with comorbidities</i>	Amoxicillin-clavulanate (or cefpodoxime / cefuroxime) plus a macrolide or doxycycline, or a respiratory fluoroquinolone alone (levofloxacin 750 mg, moxifloxacin 400 mg).	Comorbidity means heart, lung, liver or renal disease, diabetes, alcohol use, malignancy or asplenia. Keep fluoroquinolones as the fallback given tendon, aortic and <i>C. difficile</i> harms.
Inpatient <i>nonsevere</i>	Beta-lactam + macrolide (ceftriaxone 1–2 g q24h, cefotaxime, ampicillin-sulbactam or ceftazoline, plus azithromycin 500 mg q24h), or respiratory fluoroquinolone monotherapy.	Doxycycline is the alternative to the macrolide if it is contraindicated. Do not add anaerobic cover for suspected aspiration unless there is a lung abscess or empyema .
Inpatient <i>severe</i>	Beta-lactam + macrolide, or beta-lactam + respiratory fluoroquinolone. Monotherapy is not a guideline option here, unlike nonsevere CAP.	Add MRSA or Pseudomonas cover only for real risk (see below). Give the first dose in the ED: delay to effective therapy drives mortality more than the choice between the two regimens.

WHEN TO COVER MRSA OR PSEUDOMONAS *HCAP is gone: cover on risk, not on contact with healthcare*

Indication	Nonsevere CAP	Severe CAP
Prior respiratory isolation of MRSA or Pseudomonas <i>the one consistent predictor</i>	Cover empirically at both severities, and send cultures so you have something to de-escalate on.	
Hospitalized AND given parenteral antibiotics in the last 90 days, plus locally validated risk factors	Send cultures but withhold coverage. Escalate only if a culture turns positive.	Send cultures and cover empirically while you wait: the cost of being wrong for 48 h is far higher here.
Neither of the above	Do not cover. Nursing home residence, dialysis or wound care alone are not indications : that is the HCAP thinking 2019 discarded.	

AGENTS, AND HOW TO GET OFF THEM

MRSA: vancomycin or linezolid 600 mg q12h; local risk factors classically include **post-influenza, necrotizing or cavitory disease, empyema and dialysis**. **Pseudomonas:** piperacillin-tazobactam, cefepime or meropenem; classically **bronchiectasis or other structural lung disease**. **De-escalate at 48 h** if cultures are negative and the patient is improving, and remember a **negative MRSA nasal PCR** has a high negative predictive value and is the fastest way off vancomycin.

WORKUP: TEST THE SICK, NOT EVERYONE

Blood and sputum cultures for **severe CAP**, anyone treated empirically for MRSA or Pseudomonas, prior isolation of either, or hospitalization with parenteral antibiotics in the last 90 days; not routine otherwise, since yield is low and false positives drive unnecessary therapy. **Pneumococcal and Legionella urinary antigen** in severe CAP, plus Legionella on epidemiologic grounds (outbreak, travel): they stay positive after antibiotics start, so they are the tests most likely to let you **narrow**. **Respiratory viral PCR** whenever influenza or SARS-CoV-2 is circulating. **Never use procalcitonin to withhold initial antibiotics**; its role is to support stopping. **Routine follow-up imaging is not recommended** if symptoms resolve in 5 to 7 days.

STERIODS AND DURATION *both changed in 2025, and both hinge on the severity label*

STERIODS: SEVERE ONLY

Severe CAP: hydrocortisone 200 mg/day IV, started early, for 4 to 7 days. CAPE COD, 2023 found **28-day mortality 6.2% versus 11.9%**, with less intubation and vasopressor use, at the cost of **more hyperglycemia**. **Nonsevere CAP: do not give steroids** (strong), and **avoid in influenza**, where they are associated with worse outcomes.

DURATION: STOP EARLIER THAN YOU THINK

Outpatients and nonsevere inpatients who are clinically stable: under 5 days, with a 3-day minimum. Severe CAP: 5 days or more (strong). **Stability first, then count:** afebrile, HR ≤ 100 , RR ≤ 24 , SBP ≥ 90 , SpO₂ $\geq 90\%$, taking oral intake, normal mental status. **Do not extend therapy for a persistent infiltrate or a lingering cough**, both of which lag the infection by weeks.

NOT IMPROVING AT 48 TO 72 HOURS: WORK THE FOUR BUCKETS BEFORE ESCALATING BLINDLY

Wrong bug: MRSA, Pseudomonas or another resistant organism, so recheck cultures and antigens before broadening on instinct. **Complication:** empyema, abscess or cavitation, so get a CT and **drain it**, because no antibiotic fixes an undrained empyema. **Missed pathogen:** Legionella, viral, TB, PJP or fungal, so revisit exposures, travel and immune status. **Not pneumonia:** heart failure, PE, ARDS, vasculitis, malignancy or organizing pneumonia mimicking infection.

PEARLS & PITFALLS

- **Score the severity explicitly.** It decides the regimen, the steroid, and the duration, so it is not a formality.
- **Time to effective antibiotics beats the choice between concordant regimens.**
- **Do not treat the chest film.** Infiltrates lag the cure by weeks.
- **Steroids help severe CAP and harm nonsevere CAP.**

References: Metlay et al, ATS/IDSA guideline on diagnosis and treatment of adults with community-acquired pneumonia, AJRCCM 2019 · ATS clinical practice guideline update on CAP, AJRCCM 2025 (imaging, empiric therapy with viral detection, duration, corticosteroids) · Dequin et al, CAPE COD, NEJM 2023.

Educational aid; verify against local antibiogram, renal function, allergies and patient factors.

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