

Consensus Guidelines for Inpatient Management of Community Acquired Pneumonia in Infants & Children > 3 Months: UCSF Northern California Pediatric Hospital Medicine Consortium

Table 1: EMPIRIC ANTIBACTERIAL THERAPY FOR PEDIATRIC CAP

Condition	Major Pathogens	First Choice Therapy	Alternative Therapy*
Community-acquired pneumonia, 3 months-5 years old, outpatient therapy	Majority: respiratory viruses <i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i>	Antimicrobial therapy is not routinely indicated unless suspected bacterial etiology If suspected typical bacterial etiology: Amoxicillin 45mg/kg/dose PO BID (max 1000mg/dose*) Note: Atypical pneumonia is rare in this age group	Non-severe penicillin allergy: Cefdinir 7mg/kg/dose PO BID (max 600mg/day) Severe penicillin allergy: Azithromycin 10mg/kg/dose PO x 1 on day 1 then 5mg/kg/dose PO daily on days 2-5
Community-acquired pneumonia, > 5 years old, outpatient therapy	Typical, lobar: <i>Streptococcus pneumoniae</i> Atypical, bilateral interstitial infiltrates: Respiratory viruses <i>Mycoplasma pneumoniae</i>	If typical bacterial etiology suspected: Amoxicillin 45mg/kg/dose PO BID (max 1000 mg/dose*) If atypical bacterial etiology suspected: Azithromycin 10mg/kg/dose PO on day 1 (max 500mg/dose) then 5mg/kg/dose PO daily on days 2-5 (max 250mg/dose)	Non-severe penicillin allergy: Replace Amoxicillin with Cefdinir 7mg/kg/dose PO BID (max 600mg/day) Severe penicillin allergy: Replace Amoxicillin with Azithromycin 10mg/kg/dose PO on day 1 (max 500mg/dose) then 5mg/kg/dose PO daily on days 2-5 (max 250mg/dose)
Community-acquired pneumonia, > 3 months old and up, inpatient therapy but not complicated (empyema/necrotizing pneumonia)	Similar to outpatient etiologies	Suspected typical bacterial etiology: Ampicillin 50mg/kg/dose IV q6h (max 2g/dose) Strong suspicion for atypical etiology: Azithromycin 10mg/kg/dose PO on day 1 (max 500mg/dose) then 5mg/kg/dose PO daily on days 2-5 (max 250mg/dose) Note: Atypical pneumonia is rare in children < 5 years old If no distinguishing features for typical vs. atypical bacterial etiology and especially if > 5 years old: Consider combination of Ampicillin + Azithromycin (doses as above)	Non-severe penicillin allergy: Replace Ampicillin with Ceftriaxone 50mg/kg/dose IV q24h (max 2g/dose) Severe beta lactam allergy: Levofloxacin 10mg/kg/dose IV q24h if ≥ 5 years old, q12h if < 5 years old (max 750mg/day) (provides both typical and atypical bacterial activity) OR Azithromycin 10mg/kg/dose PO on day 1 (max 500mg/dose) then 5mg/kg/dose PO daily on days 2-5 (max 250mg/dose) if strong suspicion for atypical etiology with low suspicion for typical bacterial etiology
Community-acquired pneumonia, complicated (empyema, necrotizing pneumonia) *Consider transfer to tertiary center. Recommend ID consult if at tertiary center. * Blood cultures are recommended for patient with complicated pneumonia.	<i>Streptococcus pneumoniae</i> <i>Staphylococcus aureus</i>	Ceftriaxone 50mg/kg/dose IV q24h (max 2g/dose) AND One of the following agents with MRSA activity: Clindamycin 10mg/kg/dose IV q8h (max 900mg/dose) for clinically stable patients OR Vancomycin 15mg/kg/dose IV q6-8h (initial max 1g/dose) for critically ill/clinically unstable patients	Severe beta lactam allergy: Replace ceftriaxone with levofloxacin 10mg/kg/dose IV q24h if ≥ 5 years old, q12h if < 5 years old (max 750mg/day)

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***Maximum Dosing for Amoxicillin and Amoxicillin-Clavulanate:**

- although the absolute maximum Amoxicillin dose is 4000mg/day, we recommend the following for usual maximum dosing when targeting a high dose (80-90 mg/kg/day):

--Amoxicillin suspension – usual maximum 2000mg/day = 1000mg/dose

--Amoxicillin tablet – usual maximum 875mg/dose or 1000mg/dose (2 of the 500mg tablets)

--Amoxicillin-clavulanate suspension – usual maximum 2000mg/day

---If patient weight < 40 kg, use Augmentin ES-600 formulation

---If patient weight ≥ 40 kg, use regular Augmentin 400mg/ml formulation

--Amoxicillin-clavulanate tablet

---Usual maximum 875mg/dose BID

---For acute bacterial sinusitis with high-risk features such as systemic illness, fever 39°C, immunocompromised host, use maximum dose of 2000mg amoxicillin/dose BID

*For further information on assessment of true allergies, please see: <http://idmp.ucsf.edu/pediatric-guidelines-assessment-antibiotic-allergies>