

INCLUSION CRITERIA

- Patients ≥ 3 months of age who present with fever, cough, and/or increased work of breathing concerning for pneumonia

EXCLUSION CRITERIA

- Atypical pneumonia
- Complicated pneumonia
- Immunodeficiency
- Lung disease other than asthma
- Malignancy
- Neuromuscular disease
- Prior to current tracheostomy or ventilator
- Risk for aspiration
- Sepsis
- Sickle cell disease
- Significant cardiac anomaly

MEASURES

- Percent of patients returning for a second antibiotic within 7-30 days
- Number of prescribed antibiotic days
- Percent of patients treated with Amoxicillin

HIGH RISK PATIENTS¹

- < 2 years old
- Underlying chronic conditions
- BMI > 40
- Resident of a long-term care facility
- Pregnant or post partum
- Chronic aspirin therapy

ATYPICAL PNEUMONIA²

- Treatment may vary

Hospital Admission

- Obtain Vital Signs
- Complete physical exam
- Treat fever PRN
- Provide required respiratory and hemodynamic support
- Consider influenza testing for high risk patients¹ or respiratory pathogen panel if it will influence clinical management

Concern for Atypical or Severe Disease?

Yes

Refer to
Complicated Pneumonia³
Clinical Pathway

No

Mild Disease Treatment Duration: 5 days

Immunized

First line: PO amoxicillin

Mild PCN allergy⁴:

FL: PO cefdinir

DV: PO clindamycin

Severe PCN allergy⁴: PO clindamycin or PO levofloxacin⁵

Failed treatment or Amoxicillin in past 30 days: PO amoxicillin-clavulanate or PO clindamycin

Under immunized (< 2 HiBs)

First line: PO amoxicillin-clavulanate

Mild PCN allergy⁴: PO cefdinir

Severe PCN allergy⁴: PO levofloxacin⁵

Moderate Disease Treatment Duration: 5 days

Immunized

First line: IV ampicillin

Mild PCN allergy⁴: IV ceftriaxone

Severe PCN allergy⁴: IV clindamycin or levofloxacin⁵

Under immunized (< 2 HiBs)

First line: IV ampicillin-sulbactam

Mild PCN allergy⁴: IV ceftriaxone

Severe PCN allergy⁴: IV levofloxacin⁵

Reassess

- Continue supportive care
- Wean respiratory support as able
- In children who are continuing on antibiotics, treat for a total of 5 days
- Transition to PO when able to tolerate oral intake.

COMPLICATED PNEUMONIA³

- Opacified hemithorax
- Moderate/large effusion (> ¼ of the thorax)
- Empyema
- Lung Abscess
- Necrotizing pneumonia

PENICILLIN ALLERGY⁴

Mild PCN allergy type IV: Delayed maculopapular rash without urticaria, blistering, desquamation, mucosal involvement, systemic symptoms

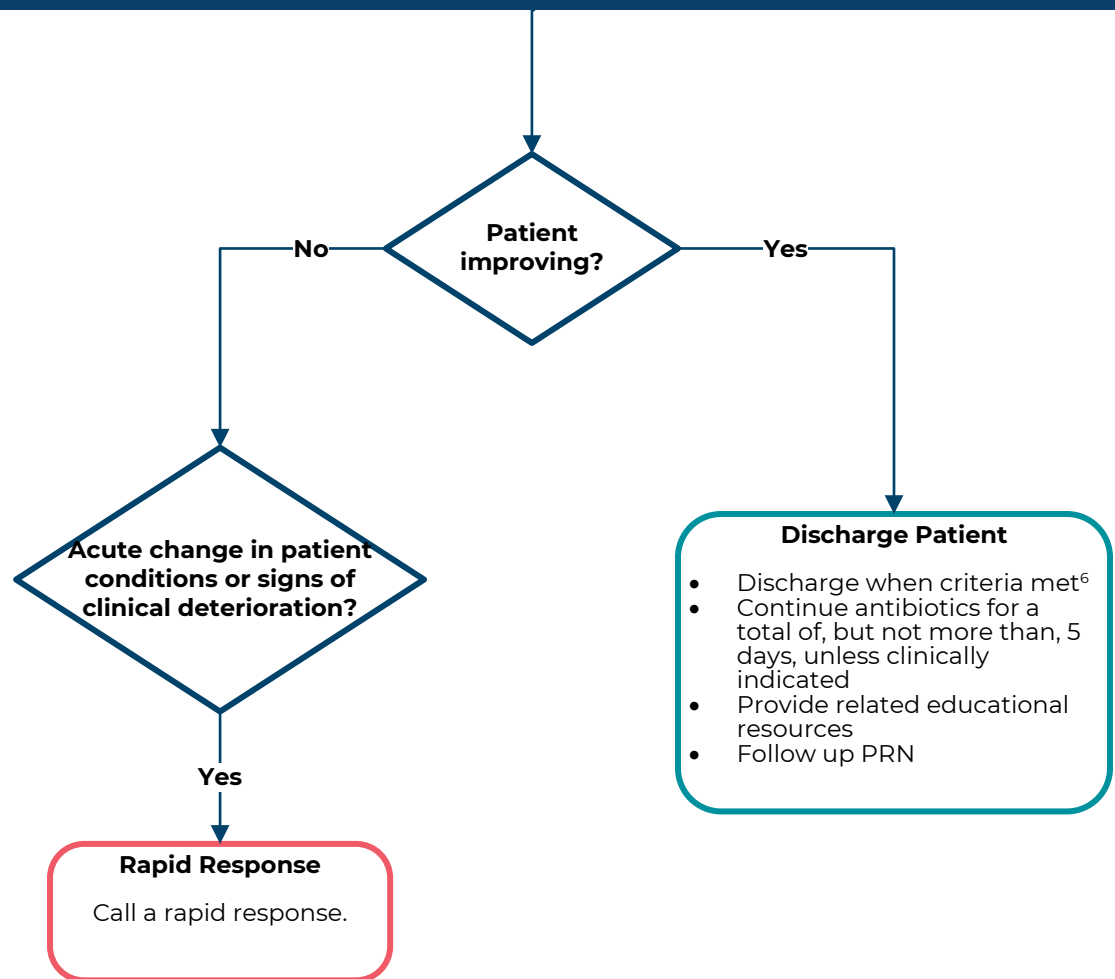
Severe PCN allergy type I/IgE mediated: Allergist confirmed history of urticaria, angioedema, wheezing, respiratory distress or anaphylaxis

SPECIAL CONSIDERATION⁵

- Levofloxacin suspension may require prior authorization, consider tablets in children >25kg

DISCHARGE CRITERIA⁶

- Tolerate PO
- Off respiratory support
- Clinically improving



Antibiotic Dosing

Medication	Route	Dosage	Max per Dose
Amoxicillin	PO	45 mg/kg/dose BID	1500 mg
	PO	30 mg/kg/dose TID (preferred for moderate/severe disease)	1000 mg
Amoxicillin-clavulanate*	PO	ES suspension (amoxicillin 600 mg/clavulanate 42.9 mg/5mL) 45 mg/kg/dose of amoxicillin BID	1800 mg
	PO	ES suspension (amoxicillin 600 mg/clavulanate 42.9 mg/5mL) 30 mg/kg/dose of amoxicillin TID (preferred for moderate/severe disease)	1000 mg
	PO	Tablet (amoxicillin 875 mg/clavulanate 125 mg per tablet) for weight ≥40 kg 875 mg of amoxicillin BID	875 mg
	PO	Chewable tablet (amoxicillin 400 mg/clavulanate 57 mg per tablet) for weight ≥40 kg 800 mg of amoxicillin BID	800 mg
Ampicillin	IV	50 mg/kg/dose Q6H	2000 mg
Ampicillin/sulbactam	IV	50 mg/kg/dose Q6H	2000 mg
Cefdinir	PO	7 mg/kg/dose BID	300 mg
Ceftriaxone	IV	75 mg/kg/dose Q24H	2000 mg
Clindamycin	PO	10 mg/kg/dose TID	600 mg
	IV	13.3 mg/kg/dose Q8H	900 mg
Levofloxacin	IV/PO	≥6 months to <5 years 10 mg/kg/dose BID	375 mg
		≥5 years 10 mg/kg/dose Q24H	750 mg

*For patients <12 years of age, consider the use of amoxicillin-clavulanate suspension to achieve higher doses of amoxicillin

Mild Tachypnea in Children	
Age	Respiratory Rate
3-11 months	51-59
12-23 months	41-44
2-3 years	35-39
4-5 years	31-35
6-12 years	27-30
≥13 years	24-27

Abbreviations			
Abbreviation	Terminology	Abbreviation	Terminology
BID	Twice a day	mL	Milliliter
BMI	Body mass index	PC	Primary Care
DE	Delaware	PCN	Penicillin
DV	Delaware Valley	PCP	Primary Care Physician
ED	Emergency Department	PO	By mouth
FL	Florida	PRN	As needed
HiB	Haemophilus Influenzae type B	Q6H	Every 6 hours
IgE	Immunoglobulin E	Q8H	Every 8 hours
IM	Intramuscular	Q24H	Every 24 hours
IV	Intravenous	SpO2	Peripheral Oxygen Saturation
kg	Kilogram	TID	Three times a day
mg	Milligram	UC	Urgent Care

Disclaimer: The clinical pathways are based upon publicly available medical evidence and/or a consensus of medical practitioners at Nemours Children's Health ("Nemours") and are current at the time of publication. These clinical pathways are intended to be a guide for practitioners and may need to be adapted for each specific patient based on the practitioner's professional judgment, consideration of any unique circumstances, the needs of each patient and their family, and/or the availability of various resources at the health care institution where the patient is located.

VERSION MANAGEMENT

- Version 1.0 (10/24/2023): Go Live.
- Version 2.0 (7/28/2026): Look back review completed - updates made as appropriate including dosage for ceftriaxone and inclusion of viral cause and observation/waiting guidance.

Questions about this pathway should be directed to clinicalpathways@nemours.org.

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