



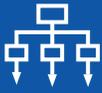
*The Pediatric UC Playbook*

# RESPIRATORY CONDITIONS CLINICAL PATHWAYS

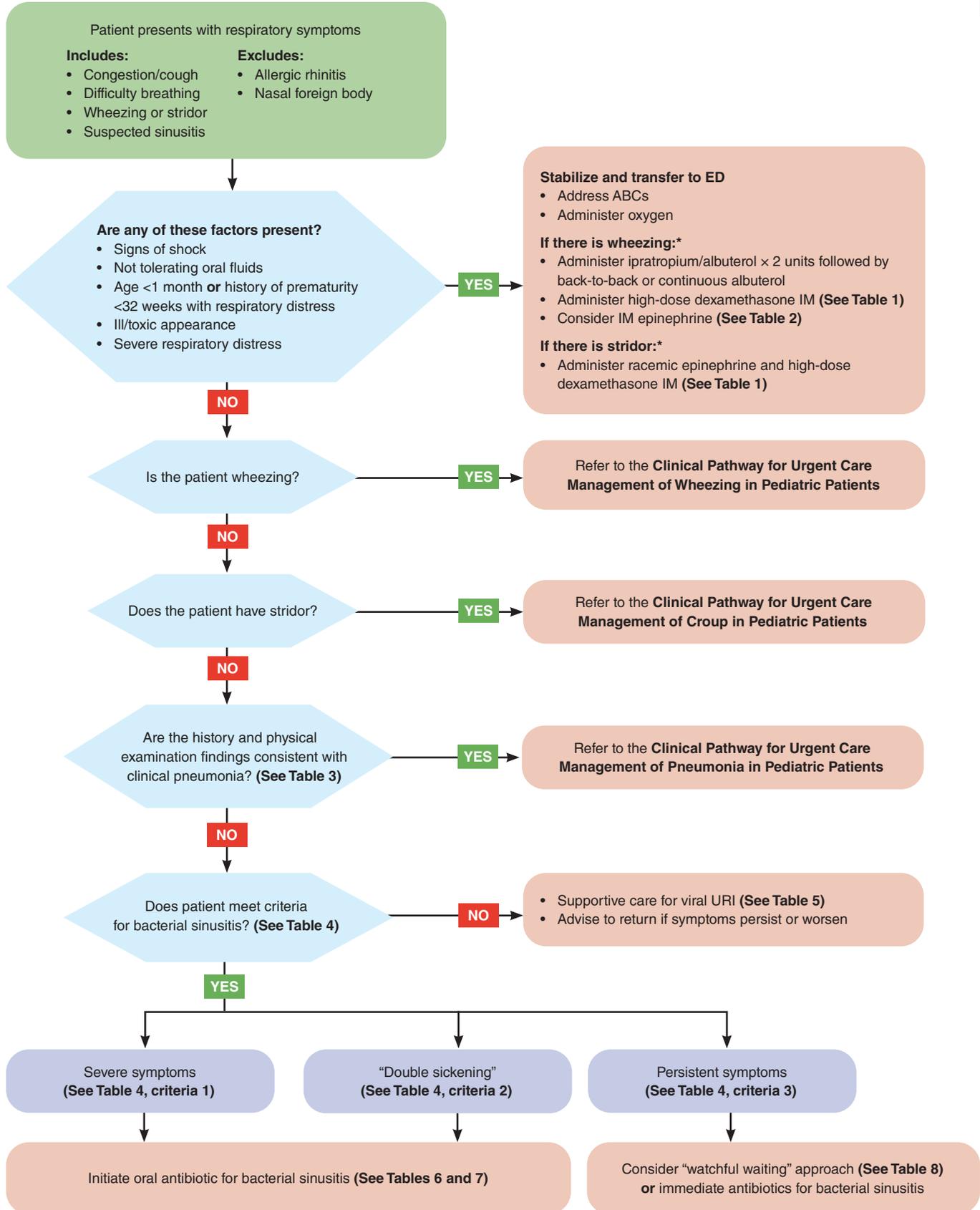
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# Clinical Pathway for Urgent Care Management of Respiratory Conditions in Pediatric Patients



\*If both wheezing and stridor are present, treat both conditions concurrently.

Abbreviations: ABCs, airway, breathing, circulation; ED, emergency department; IM, intramuscular; URI, upper respiratory infection.



## Notes

- Most upper respiratory infections are viral in nature and do not require antibiotics.
- Approximately 5%-10% of viral upper respiratory tract infections are complicated by acute bacterial sinusitis.
- Infants aged  $\geq 1$  year have developed ethmoid and maxillary sinuses and can develop sinusitis.
- Studies are equivocal regarding the role of nasal saline irrigation/intranasal corticosteroids for sinusitis.
- Topical/oral antihistamines are not recommended for the treatment of sinusitis.
- Imaging for sinusitis is not recommended unless there are signs of orbital/intracranial complications.

### Table 1. Dexamethasone Dosing by Weight for Severe Asthma or Severe Croup

- 0.6 mg/kg (max 12-16 mg)
- Can give IV formulation PO (smaller volume, better tolerated) for mild/moderate asthma
- IM/IV preferred for severe asthma/croup

Abbreviations: IM, intramuscular; IV, intravenous; PO, orally.

### Table 2. Epinephrine Dosing by Weight

- 1 mg/mL (1:1000)
- Administer IM in lateral thigh

<30 kg	30-50 kg	>50 kg
0.15 mL	0.3 mL	0.5 mL

Abbreviation: IM, intramuscular.

### Table 3. Signs and Symptoms of Clinical Pneumonia

Lobar Pneumonia	Atypical Pneumonia
<ul style="list-style-type: none"> <li>• Focal decreased breath sounds</li> <li>• Focal crackles/rales</li> </ul>	<ul style="list-style-type: none"> <li>• Diffuse crackles/rales</li> <li>• Often well appearing with persistent cough</li> </ul>

### Table 4. Diagnostic Criteria for Bacterial Sinusitis

Age  $\geq 1$  year and any 1 of the following criteria:

1. **Severe symptoms:** Concomitant fever  $\geq 39^\circ\text{C}$  ( $102.2^\circ\text{F}$ ) + purulent nasal discharge + severe facial pain for at least 3-4 consecutive days  
or
2. **“Double sickening”:** Worsening or new onset of signs/symptoms after partial improvement  
or
3. **Persistent symptoms:** Purulent nasal discharge or daytime cough for  $\geq 10$  days without improvement

### Table 5. Supportive Care Guidance for Upper Respiratory Infection

- Most cough suppressants and expectorants are ineffective in children and carry risk of adverse effects.
- First-generation antihistamines and/or phenylephrine should be avoided.
- Over-the-counter home remedies supported by small studies include honey and vapor rub.
- Hypertonic saline may decrease symptom duration (requires prescription).
- Oral decongestants can be considered in patients aged  $\geq 12$  years.

### Table 6. Antibiotic Treatment Recommendations for Sinusitis in Pediatric Patients

Clinical Situation	Drug and Dosing
First-line treatment <sup>a</sup>	Amoxicillin/clavulanate 90 mg/kg/day PO divided BID (Adults: 875 mg BID [max 1-2 g per dose])
Allergic to penicillin but no anaphylaxis	Cefprozil 30 mg/kg/day PO divided BID (max 500 mg BID) or Cefdinir 14 mg/kg/day PO daily or divided BID (max 300 mg BID) or Cefpodoxime 10 mg/kg/day PO divided BID (max 200 mg BID)  If severe symptoms or no clinical improvement with cephalosporin after 2-3 days, consider adding clindamycin 30 mg/kg/day PO divided TID (max 300 mg TID)
Anaphylactic reaction to penicillin <sup>b,c</sup>	Doxycycline (if aged $>8$ years) 4.4 mg/kg/day PO divided BID (max 100 mg BID) or Levofloxacin <sup>b</sup> 10-20 mg/kg/day PO daily or BID (max 500-750 mg/day)

<sup>a</sup>Consider amoxicillin 90 mg/kg/day divided BID (max 1 g/dose) for “watchful waiting” or mild presentation.

<sup>b</sup>Use levofloxacin with caution due to black box warning for tendonitis/rupture and neuropathy; prescribe only if there is no effective alternative.

<sup>c</sup>Sulfamethoxazole-trimethoprim and azithromycin are not recommended for sinusitis treatment due to high resistance of *Streptococcus pneumoniae*.  
Abbreviations: BID, 2 times per day; PO, orally; TID, 3 times per day.

### Table 7. Recommended Duration of Oral Antibiotic Treatment for Sinusitis

- **Age 3 months to 18 years:** 10 days\*
- **Age  $>18$  years:** Consider 5-7 days

\*Encourage re-evaluation and ending treatment at 7 days if symptoms have resolved.

### Table 8. “Watchful Waiting” Approach for Sinusitis

If symptoms are suggestive of sinusitis but do not meet diagnostic criteria due to shorter duration (eg, 7 days) or mild symptoms:

- Prescribe antibiotics, but advise 2-3 additional days of observation.
- Consider nasopharyngeal culture to guide decision to start/stop antibiotics.

Give immediate antibiotics for:

- Concurrent bacterial infection (eg, acute otitis media)
- Concern for complications
- Underlying medical conditions

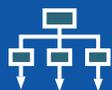


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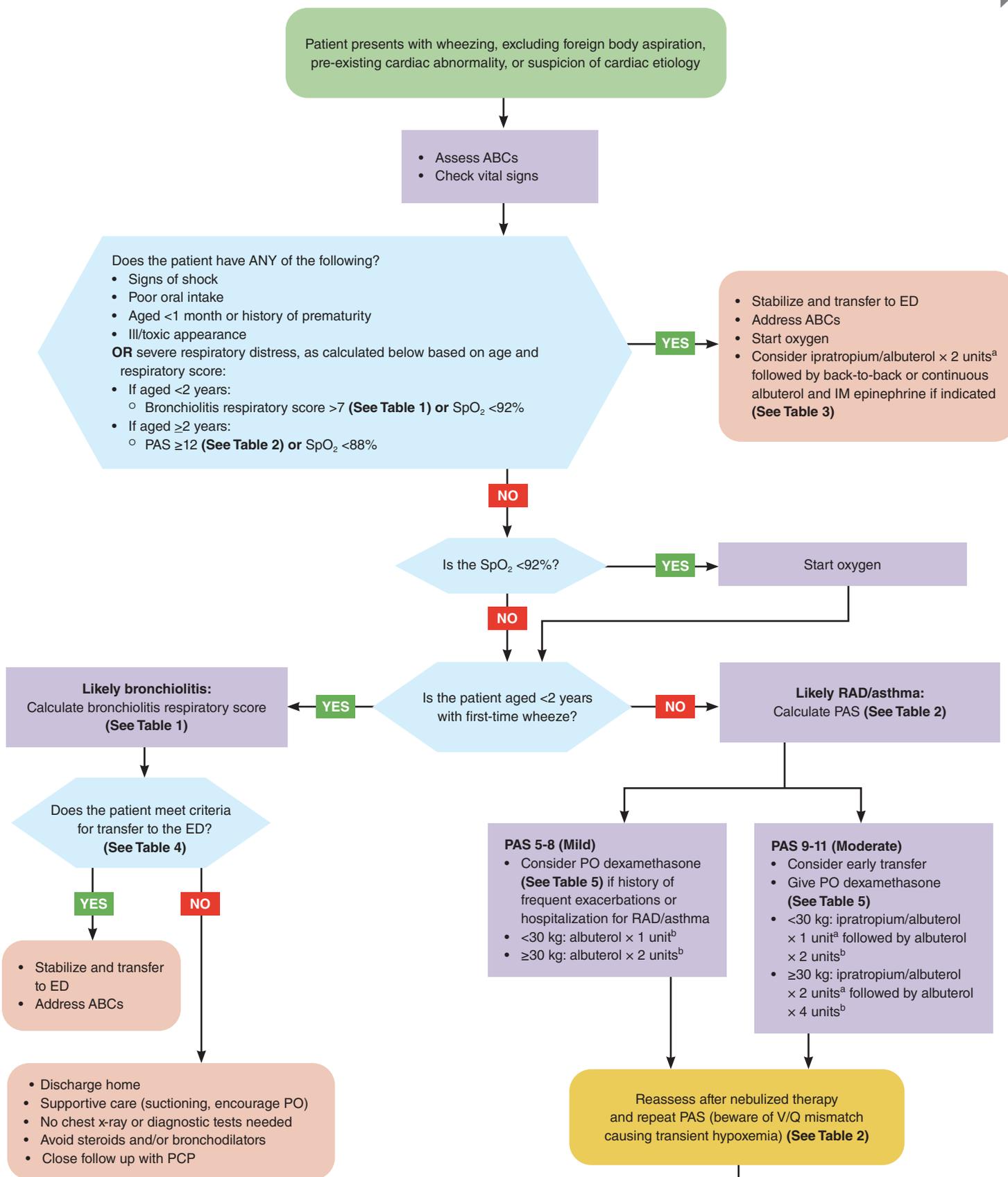
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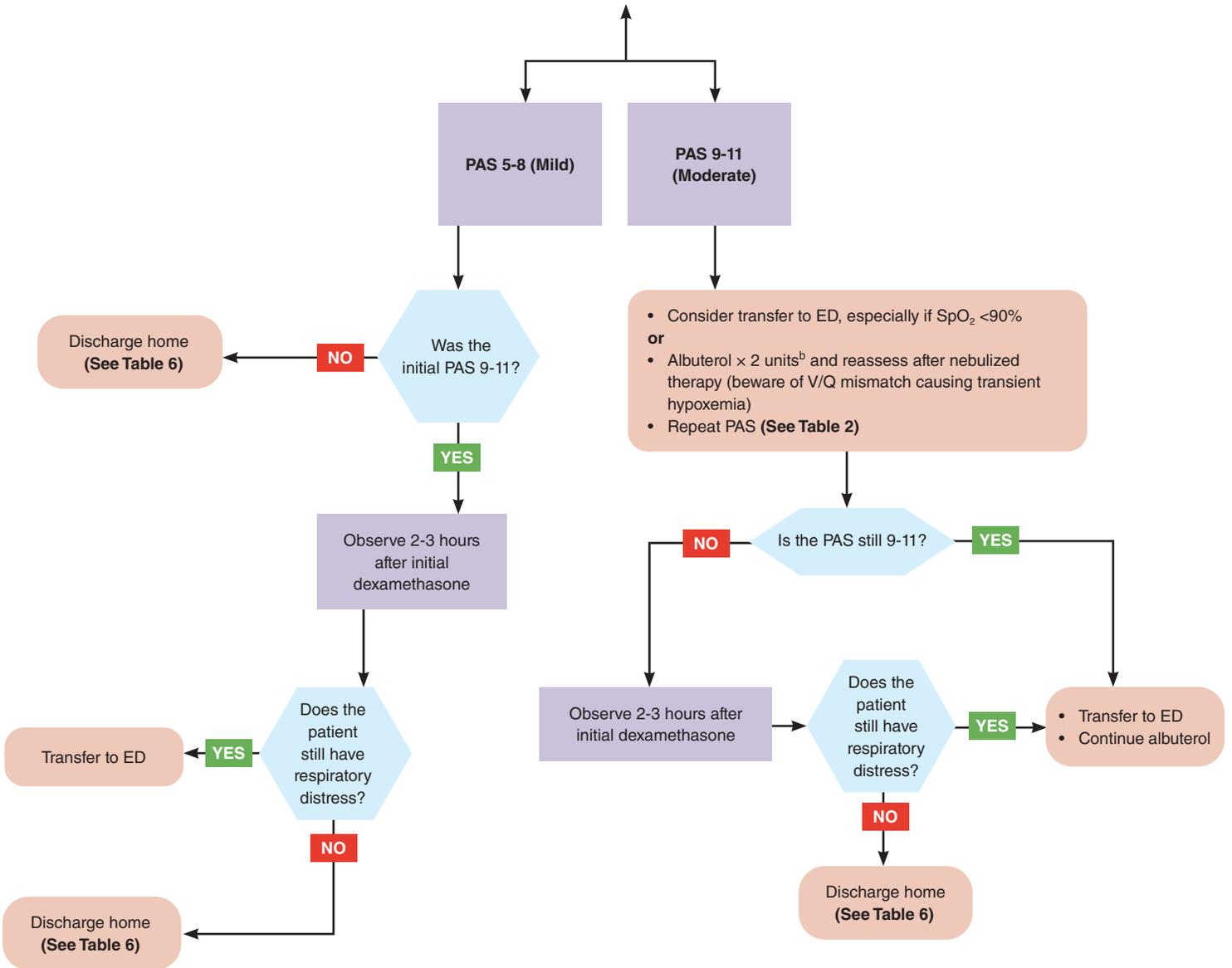


# Clinical Pathway for the Urgent Care Management of Wheezing in Pediatric Patients



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<sup>a</sup>Unit = 1 vial ipratropium bromide 0.5 mg + albuterol 2.5 mg

<sup>b</sup>Unit = 1 vial albuterol 2.5 mg

Abbreviations: ABC, airway, breathing, circulation; ED, emergency department; IM, intramuscular; PAS, Pediatric Asthma Score; PCP, primary care provider; PO, by mouth; RAD, reactive airway disease; SpO<sub>2</sub>, oxygen saturation; V/Q, ventilation/perfusion.



### Table 1. Respiratory Score for Suspected Bronchiolitis

Variable	0 Points	1 Point	2 Points	3 Points
<b>Respiratory rate by age</b>				
<3 months		<60 breaths/min	61-69 breaths/min	≥70 breaths/min
3-12 months		<50 breaths/min	51-59 breaths/min	≥60 breaths/min
>12 months		<40 breaths/min	41-44 breaths/min	≥45 breaths/min
<b>Auscultation</b>				
N/A	No wheezing	End expiratory wheeze	Full expiratory wheeze	Inspiratory/expiratory wheeze
<b>Retractions</b>				
N/A	None	Subcostal or intercostal	2 of the following: subcostal, intercostal, substernal, or nasal flaring	3 of the following: subcostal, intercostal, substernal, or nasal flaring
<b>Dyspnea</b>				
N/A	Normal feeding, vocalizations, activity	Difficulty feeding, decreased vocalization, or agitated	2 of the following: difficulty feeding, decreased vocalization, or agitated	Stops feeding, no vocalization, drowsy

### Table 2. Pediatric Asthma Score (PAS)

Variable	1 Point	2 Points	3 Points
<b>Respiratory rate by age</b>			
2-3 years	≤34 breaths/min	35-39 breaths/min	≥40 breaths/min
4-5 years	≤30 breaths/min	31-35 breaths/min	≥36 breaths/min
6-12 years	≤26 breaths/min	27-30 breaths/min	≥31 breaths/min
>12 years	≤23 breaths/min	24-27 breaths/min	≥28 breaths/min
<b>Oxygen requirements</b>			
	>95% on room air	90-95% on room air	<90% on room air
<b>Auscultation</b>			
	Normal breath sounds to end-expiratory wheeze only	Expiratory wheezing	Inspiratory and expiratory wheezing to diminished breath sounds
<b>Retractions</b>			
	None or intercostal	Intercostal and substernal	Intercostal, substernal, and supraclavicular
<b>Dyspnea</b>			
	Speak in sentences (or coos and babbles)	Speaks partial sentences (or short cry)	Speaks in single words or short phrases (or grunts)

### Table 3. Epinephrine Dosing by Weight

1 mg/mL (1:1000)

Administer IM in lateral thigh

<30 mg	30-50 mg	>50 mg
0.15 mL	0.3 mL	0.5 mL

Abbreviation: IM, intramuscular.

### Table 4. Criteria for Transfer of Suspected Bronchiolitis Patients

- Persistent moderate to severe respiratory distress or bronchiolitis respiratory score ≥5 (See Table 1)
- Hypoxia (SpO<sub>2</sub> <92%) when awake
- Poor oral intake
- Age <1 month or history of severe prematurity

### Table 5. Dexamethasone Dosing for Asthma

- 0.6 mg/kg, max 12-16 mg
- Can give IV formulation PO (smaller volume, better tolerated) for mild/moderate asthma
- IV preferred for severe asthma

Abbreviations: IV, intravenous; PO, by mouth.

### Table 6. Asthma Discharge Guidance

- Consider second dose of dexamethasone to be administered in 24 hours if cannot follow up with primary care physician (follow state medication dispensing guidelines)
  - Can use dexamethasone pills and instruct caregiver to crush into soft food
- Consider inhaled corticosteroid at discharge if >1 course oral corticosteroids in past year, or frequent symptoms (more than 2 times per week)
- Administer albuterol nebulizer or metered dose inhaler Q4hr for 24 hours, then PRN

Abbreviations: PRN, as needed; Q, every.

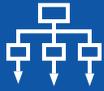


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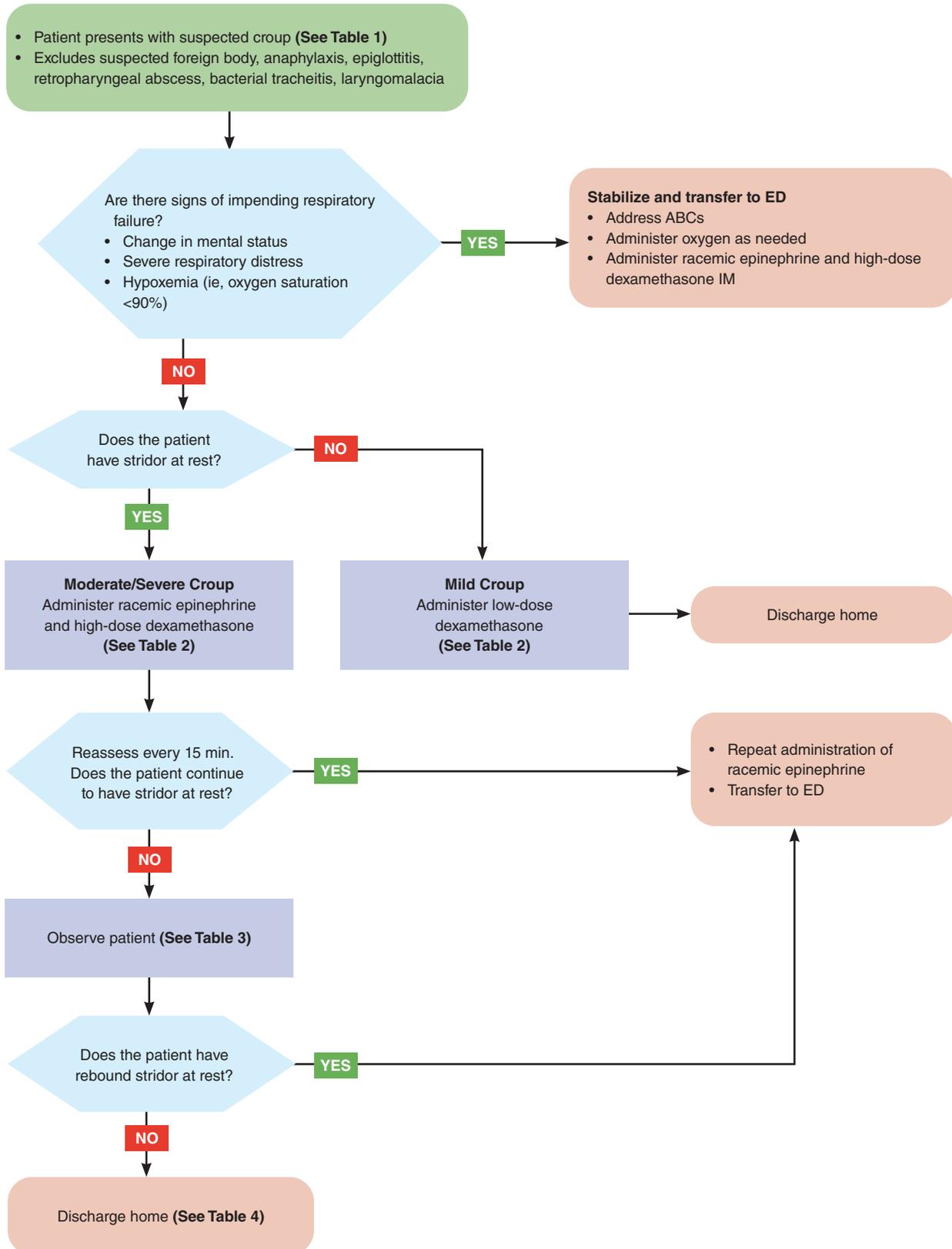
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# Clinical Pathway for Urgent Care Management of Croup in Pediatric Patients



Abbreviations: ABCs, airway, breathing, circulation; ED, emergency department; IM, intramuscular.



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## Notes

- Ancillary testing is usually not needed for diagnosis of croup.
- Consider soft-tissue neck x-ray +/- chest x-ray CXR +/- lateral decubitus films (screening for epiglottitis and/or foreign body) if there is diagnostic ambiguity.
- Can advise cool mist/cool air when discharged home (minimal evidence of benefit but minimal harm).
- Advise immediate re-evaluation for stridor at rest or worsening distress.

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### Table 1. Clinical Diagnosis of Croup

- Barky or seal-like cough with or without stridor
- Usually preceded by upper respiratory infection symptoms for 1-3 days, with or without fever
- Age 6 months to 6 years
- Abrupt onset or worsening symptoms at night
- Parents may describe stridor as “wheezing”

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### Table 2. Dexamethasone Dosing by Weight for Croup

- **Moderate/severe croup:** 0.6 mg/kg PO or IM (max 12-16 mg)
- **Mild croup:** 0.3 mg/kg PO (max 12-16 mg)
- Can give IV formulation PO (smaller volume, better tolerated) for mild/moderate croup

Abbreviations: IM, intramuscular; IV, intravenous; PO, orally.

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### Table 3. Observation After Croup Treatment

- Observe patient for rebound symptoms for 1-2 hours post treatment
- Consider shorter observation period based on parental reliability and comfort level

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### Table 4: Discharge Criteria for Croup

To consider discharge, patient should meet all of these criteria:

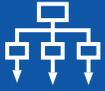
- Normal oxygen saturation ( $\geq 94\%$ )
- No stridor at rest
- No respiratory distress

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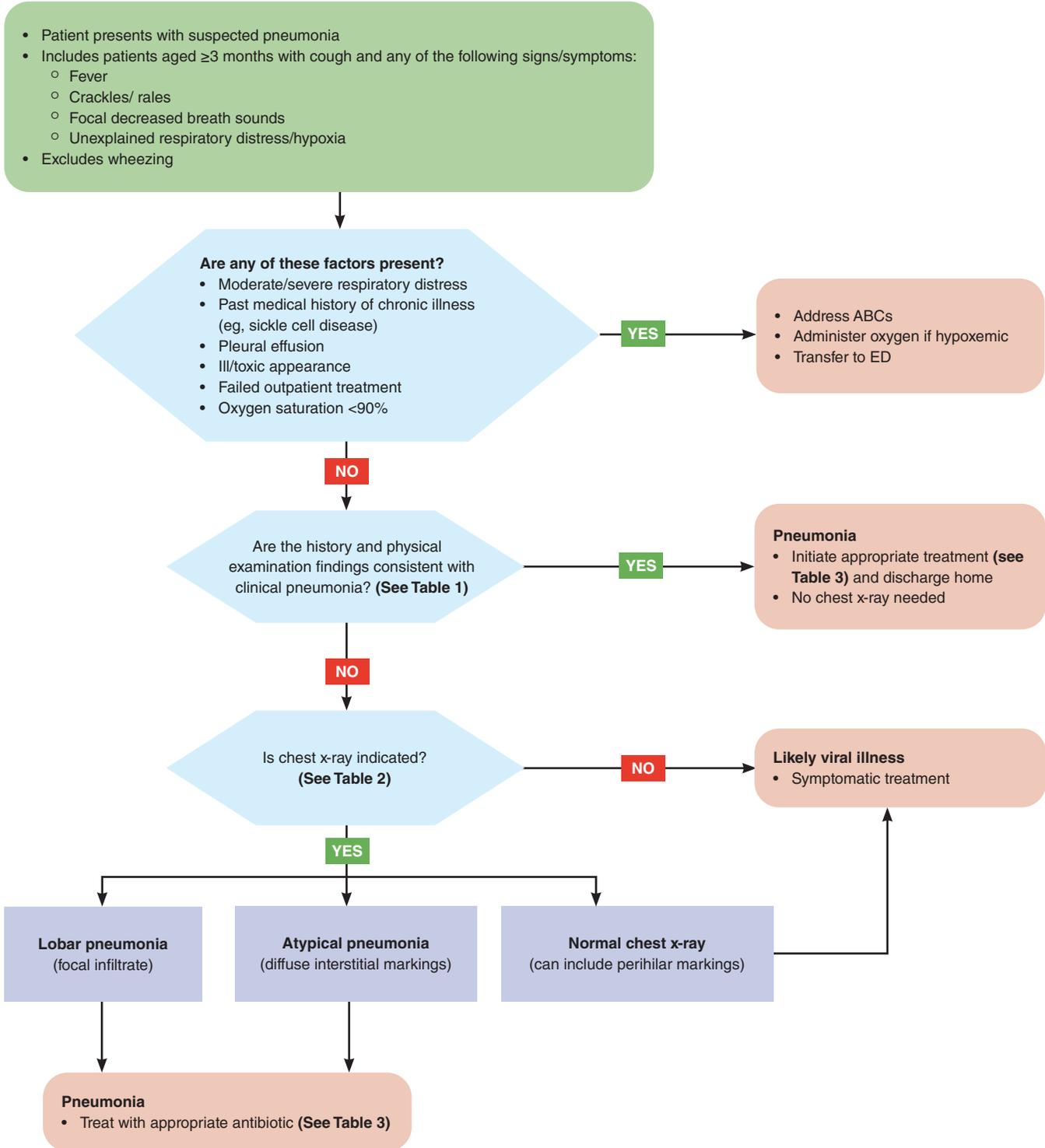
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# Clinical Pathway for Urgent Care Management of Pneumonia in Pediatric Patients



Abbreviations: ABCs, airway, breathing, circulation; ED, emergency department; IM, intramuscular.



**Table 1. Signs and Symptoms of Clinical Pneumonia**

Lobar Pneumonia	Atypical Pneumonia
<ul style="list-style-type: none"> <li>Focal decreased breath sounds</li> <li>Focal crackles/rales</li> </ul>	<ul style="list-style-type: none"> <li>Diffuse crackles/rales</li> <li>Often well appearing with persistent cough</li> </ul>

**Table 2. Indications and Considerations for Chest X-ray in Suspected Pneumonia**

- Always obtain posteroanterior and lateral views.
- Chest x-ray is usually not indicated in the outpatient setting but consider for:
  - Concern for occult pneumonia (ie, prolonged fever and cough for  $\geq 4$  days with normal lung examination)
  - Diagnostic uncertainty
  - Young/unimmunized infant
- Chest x-ray findings in pneumonia may lag behind clinical symptoms.

**Resources**

- Children's Hospital of Philadelphia. Community acquired pneumonia clinical pathway. Accessed August 21, 2025. <https://www.chop.edu/clinical-pathway/pneumonia-community-acquired-clinical-pathway>
- Johns Hopkins All Children's Hospital. Pneumonia & parapneumonic effusion clinical pathway. Updated January 10, 2023. Accessed August 21, 2025. [https://www.hopkinsmedicine.org/-/media/files/allchildrens/clinical-pathways/pneumonia-parapneumonic-effusion-1\\_10\\_23.pdf](https://www.hopkinsmedicine.org/-/media/files/allchildrens/clinical-pathways/pneumonia-parapneumonic-effusion-1_10_23.pdf)
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**Table 3. Antibiotic Treatment Recommendations for Pneumonia in Pediatric Patients**

Clinical Situation	Drug and Dosing
Lobar pneumonia first-line treatment <sup>a</sup>	<ul style="list-style-type: none"> <li>Amoxicillin 90 mg/kg/day PO divided BID (max 1 g/dose) <math>\times</math> 5 days                             <ul style="list-style-type: none"> <li>Consider 90 mg/kg/day PO divided TID for more severe cases (max 1 g/dose)</li> </ul> </li> </ul>
Lobar pneumonia and allergic to penicillin	<ul style="list-style-type: none"> <li>Clindamycin 30 mg/kg/day PO divided TID (max 300 mg TID) <math>\times</math> 5 days                             <ul style="list-style-type: none"> <li>To avoid poor palatability of clindamycin suspension, parent can be instructed to open capsules and mix with food</li> </ul> </li> <li><b>or</b></li> <li>Levofloxacin<sup>b</sup> <ul style="list-style-type: none"> <li>6 months-5 years: 20 mg/kg/day PO divided BID (max 500 mg/day) <math>\times</math> 5 days</li> <li><math>\geq 5</math> years: 10 mg/kg PO once per day (max 500 mg/day) <math>\times</math> 5 days</li> </ul> </li> </ul>
Lobar pneumonia and positive for influenza	Consider amoxicillin plus oseltamivir
Atypical pneumonia <sup>c</sup>	<ul style="list-style-type: none"> <li>Azithromycin<sup>d</sup> 10 mg/kg PO on day 1 (max 500 kg), then 5 mg/kg PO on days 2-5 (max 250 mg/day)</li> <li>If allergic to azithromycin, use levofloxacin (see dosing above)</li> </ul>

<sup>a</sup>Oral cephalosporins are inferior to high-dose amoxicillin for *Streptococcus pneumoniae*, and are no longer recommended as a penicillin alternative for lobar pneumonia.

<sup>b</sup>Levofloxacin is effective against *S pneumoniae* and appears to be safe to use in pediatric patients. It carries a very small risk of arthritis/tendonitis (~2%). Use with caution in athletes and patients who are also taking corticosteroids. Discontinue if there is any joint pain.

<sup>c</sup>Considerations during *Mycoplasma pneumoniae* outbreaks:

- Consider treating lobar pneumonia with azithromycin empirically, especially if patient is well appearing.
- Alternative approaches include treating lobar pneumonia with amoxicillin and sending out a PCR test for *M pneumoniae*.
- For patients who are more ill appearing, consider doxycycline 2-4 mg/kg/day PO daily or divided BID (max 100 mg/BID) as an alternative, as it covers both *S pneumoniae* and *M pneumoniae*.

<sup>d</sup>Azithromycin is not routinely recommended for lobar pneumonia due to high resistance of *S pneumoniae* (up to 40%). Azithromycin can be considered for lobar pneumonia during *M pneumoniae* outbreaks.

Abbreviations: BID, 2 times per day; PO, orally; TID, 3 times per day.



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