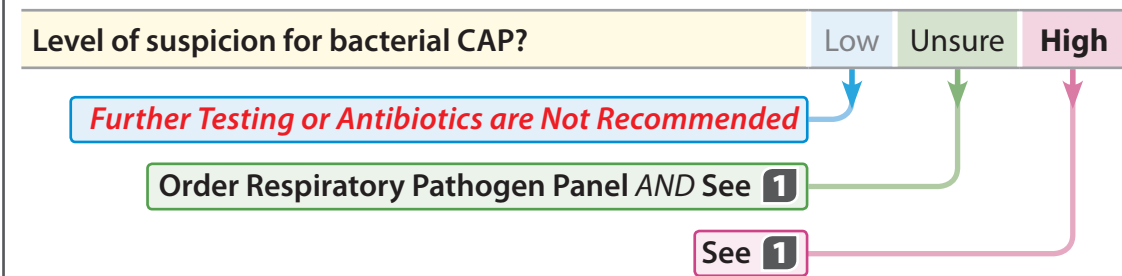


This algorithm is relevant to children 6 months to <18 years of age with community-acquired pneumonia presenting for emergency care, but it is **not applicable to all children with pneumonia**.

Specific exclusion criteria include children with tracheostomy, cystic fibrosis, or immunosuppression, and children hospitalized for any reason within the preceding 7 days.

**Outpatient Algorithm — patient being discharged from ED**

**Start Confirmation of Bacterial CAP Diagnosis:**

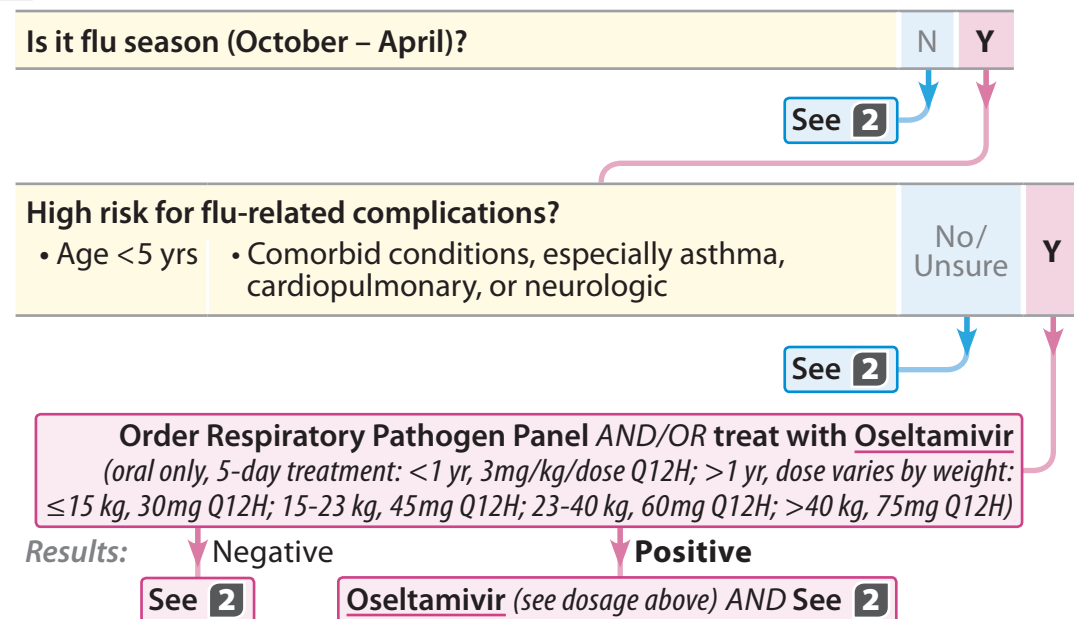


**Pediatric CAP is most often caused by viruses.**

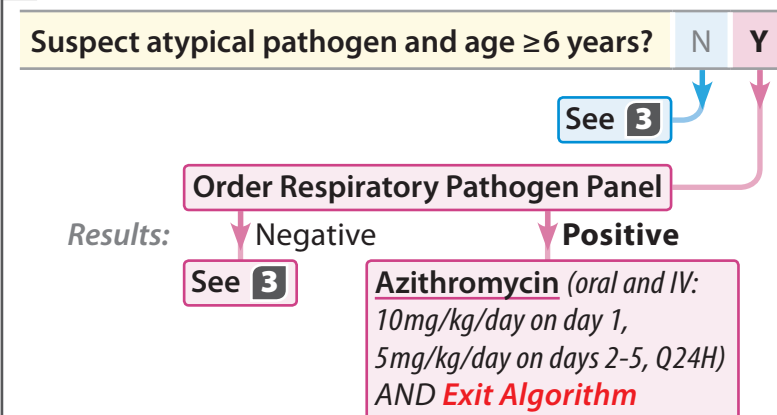
Viral etiologies are associated with:

- Preschool age (<5 years)
- Gradual onset with mixture of upper and lower respiratory symptoms
- Bilateral auscultatory findings, including wheezing
- Interstitial infiltrates

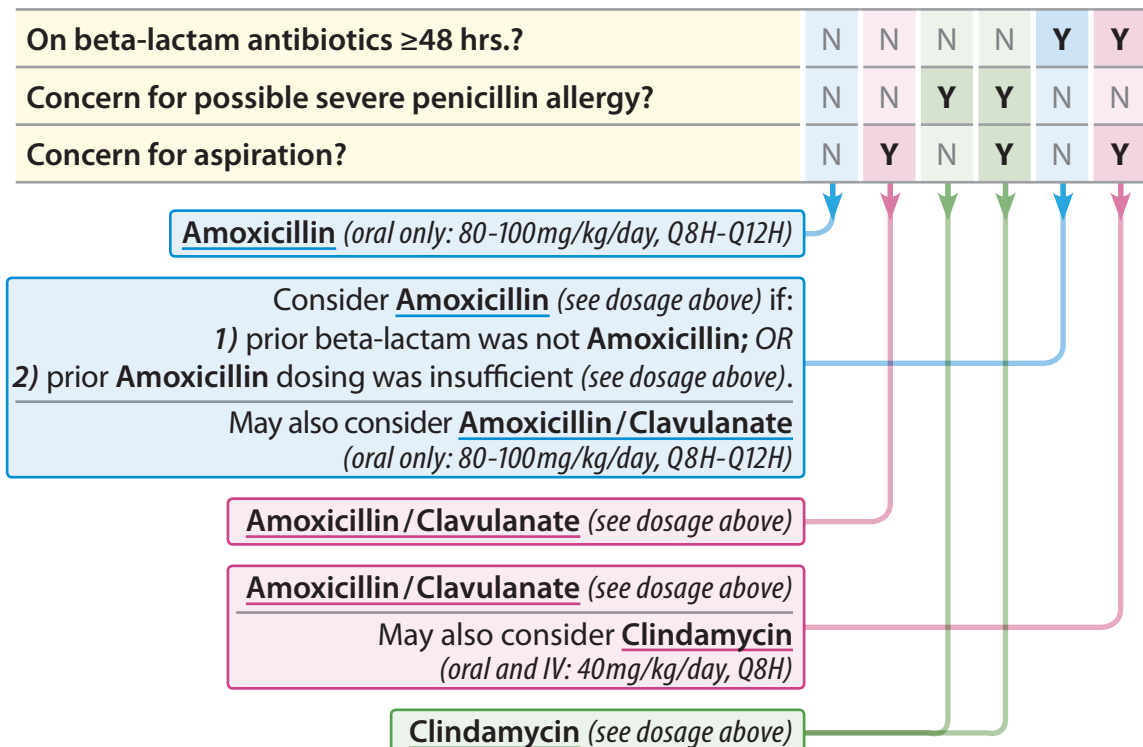
**1 Influenza Considerations:**



**2 Atypical Pathogen:**



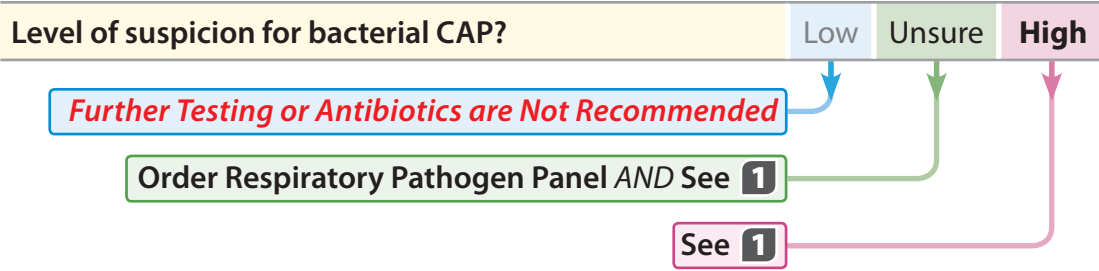
**3 Antibiotics:**



This algorithm uses evidence-based guidelines published in "The Management of Community-Acquired Pneumonia in Infants and Children Older Than 3 Months of Age: Clinical Practice Guidelines by the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America" (Bradley et al 2011) that can be accessed at <https://academic.oup.com/cid/article/53/7/e25/424286>.

**Inpatient Algorithm — patient being admitted to medical unit**

**Start Confirmation of Bacterial CAP Diagnosis:**

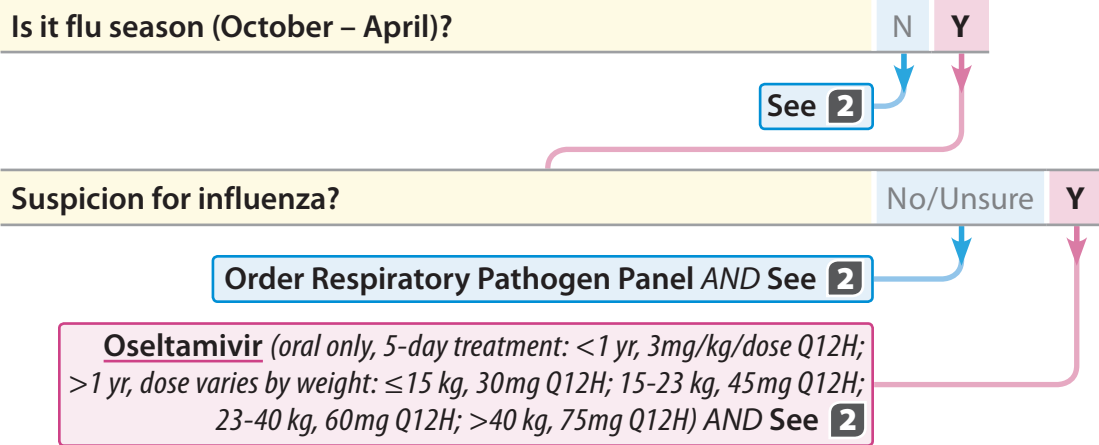


**Pediatric CAP is most often caused by viruses.**

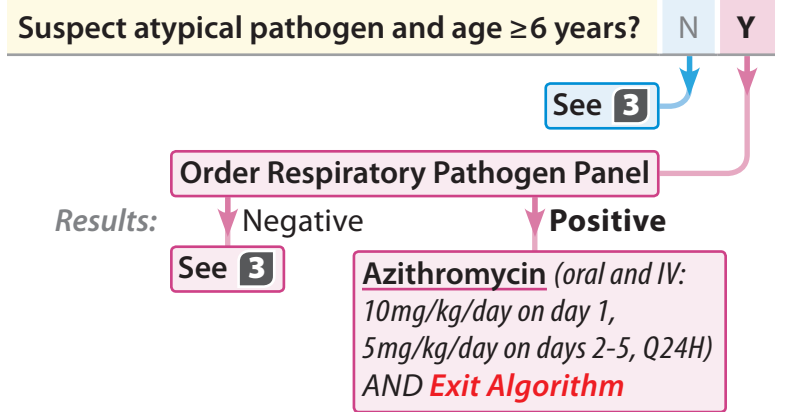
Viral etiologies are associated with:

- Preschool age (<5 years)
- Gradual onset with mixture of upper and lower respiratory symptoms
- Bilateral auscultatory findings, including wheezing
- Interstitial infiltrates

**1 Influenza Considerations:**

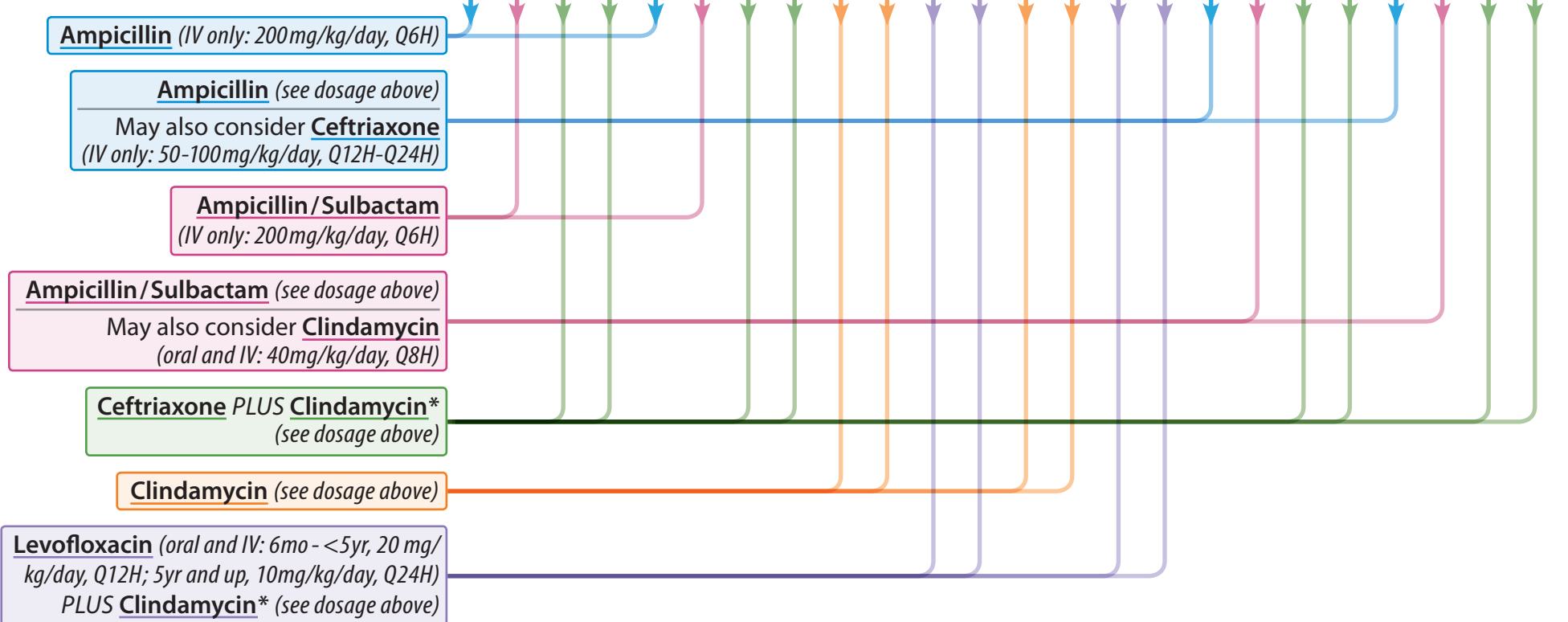


**2 Atypical Pathogen:**



**3 Antibiotics & Labs:**

On beta-lactam antibiotics ≥48 hrs?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Concern for severe penicillin allergy?	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N
Moderate to large pleural effusion? (1,2)	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y
Necrotizing/severe pneumonia? (2)	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Concern for aspiration?	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y



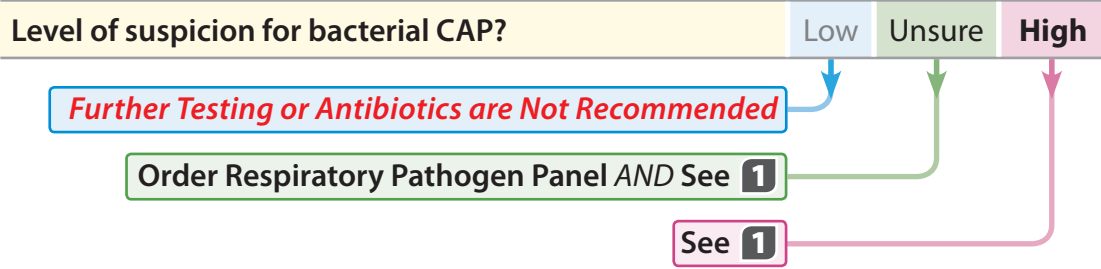
\* Consider substituting **Vancomycin** (IV only: 60mg/kg/day, Q6H, dose adjust for renal function as needed) for **Clindamycin** for those with very severe CAP and/or concern for rapid clinical deterioration.

**IN ALL CASES:** • Consider consultation with **Pediatric Infectious Diseases** for further antibiotic recommendations.

1. If pleural effusion, consider **Chest Ultrasound** to evaluate character of effusion AND consultation with **Pediatric Surgery OR Interventional Radiology** for evaluation of drainage.
2. If pleural effusion OR complications, recommend **CBC with Diff AND C-reactive Protein AND Basic Metabolic Panel AND Blood Culture**.

ICU (no IMV, no Shock) Algorithm — patient being admitted to ICU

**Start Confirmation of Bacterial CAP Diagnosis:**

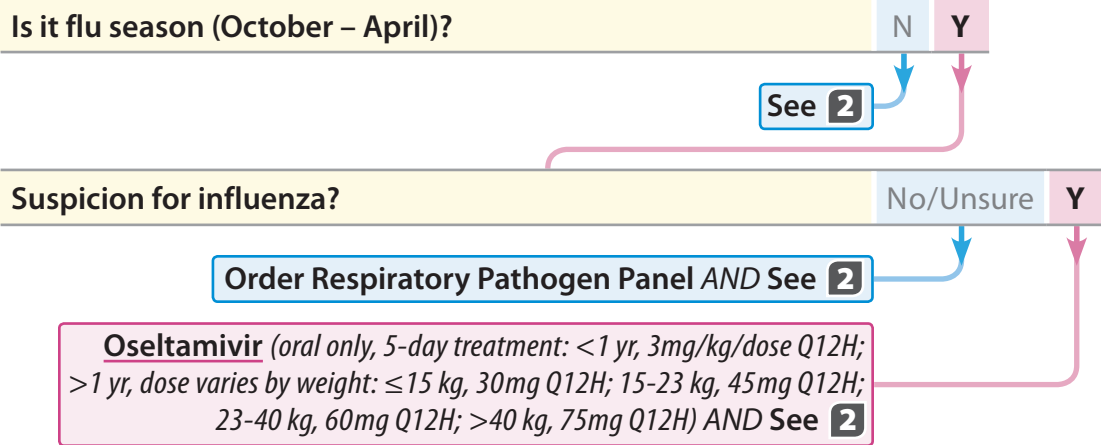


**Pediatric CAP is most often caused by viruses.**

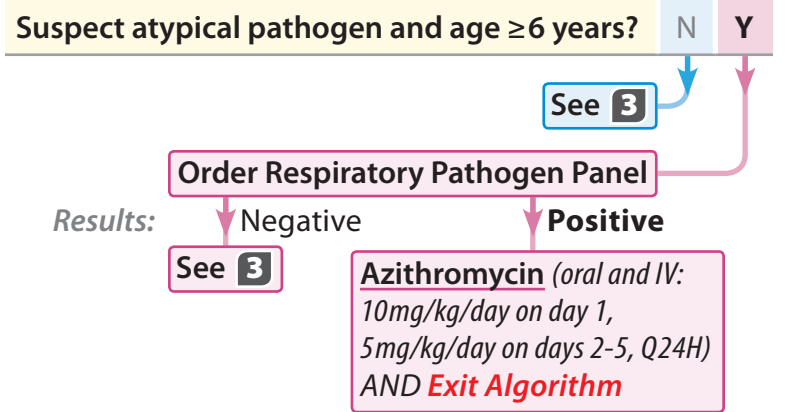
Viral etiologies are associated with:

- Preschool age (<5 years)
- Gradual onset with mixture of upper and lower respiratory symptoms
- Bilateral auscultatory findings, including wheezing
- Interstitial infiltrates

**1 Influenza Considerations:**

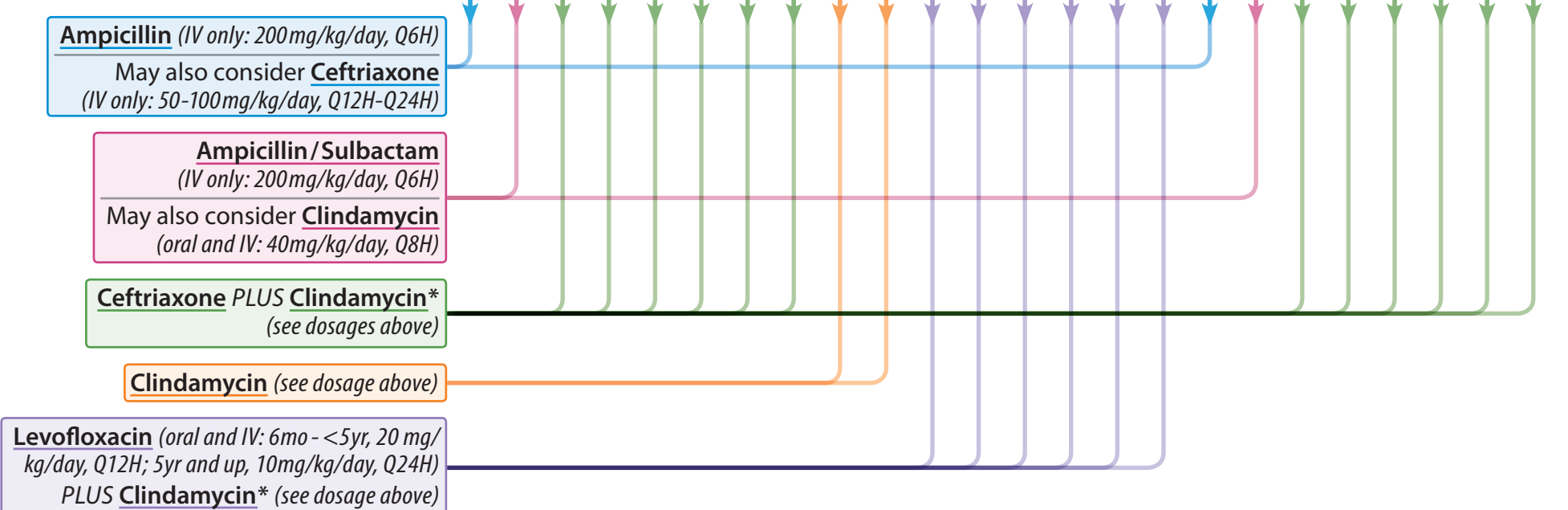


**2 Atypical Pathogen:**



**3 Antibiotics & Labs:**

On beta-lactam antibiotics ≥48 hrs?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Concern for severe penicillin allergy?	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
Moderate to large pleural effusion? (1,2)	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y
Necrotizing/severe pneumonia? (2)	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Concern for aspiration?	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y



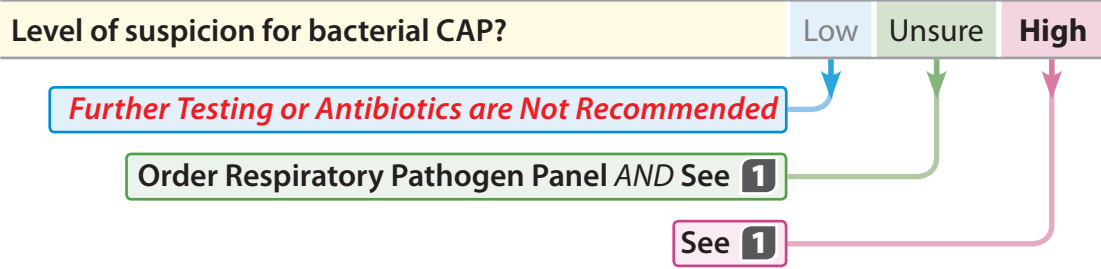
\* Consider substituting Vancomycin (IV only: 60mg/kg/day, Q6H, dose adjust for renal function as needed) for Clindamycin for those with very severe CAP and/or concern for rapid clinical deterioration.

**IN ALL CASES:** • Recommend CBC with Diff AND Basic Metabolic Panel AND Blood Culture.  
• Consider consultation with Pediatric Infectious Diseases for further antibiotic recommendations.

1. If pleural effusion, consider Chest Ultrasound to evaluate character of effusion AND consultation with Pediatric Surgery OR Interventional Radiology for evaluation of drainage.
2. If pleural effusion OR complications, recommend C-reactive Protein.

ICU (IMV with no Shock) Algorithm — patient being admitted to ICU

**Start Confirmation of Bacterial CAP Diagnosis:**

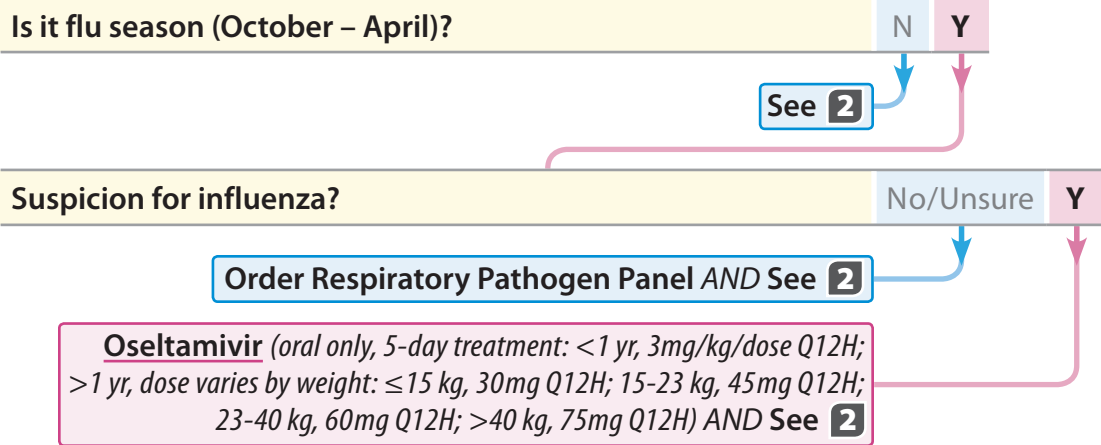


**Pediatric CAP is most often caused by viruses.**

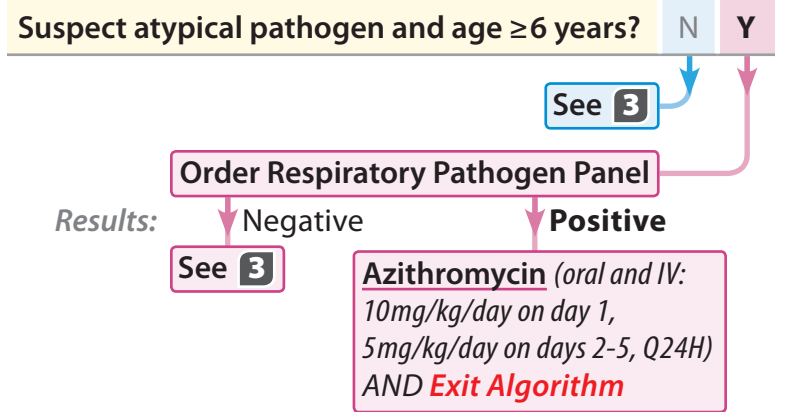
Viral etiologies are associated with:

- Preschool age (<5 years)
- Gradual onset with mixture of upper and lower respiratory symptoms
- Bilateral auscultatory findings, including wheezing
- Interstitial infiltrates

**1 Influenza Considerations:**

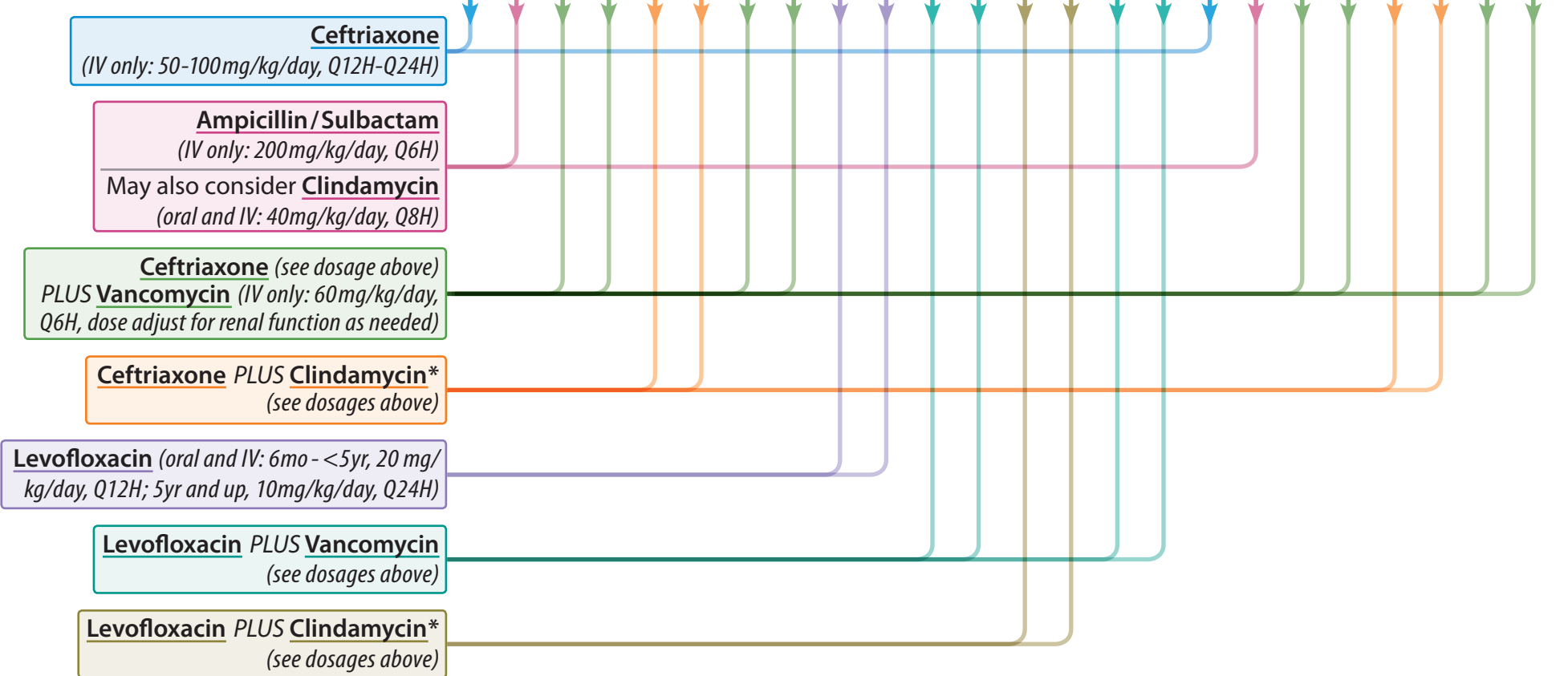


**2 Atypical Pathogen:**



**3 Antibiotics & Labs:**

On beta-lactam antibiotics ≥48 hrs?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Concern for severe penicillin allergy?	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N
Moderate to large pleural effusion? (1,2)	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y
Necrotizing/severe pneumonia? (2)	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	Y
Concern for aspiration?	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	Y



\* Consider substituting Vancomycin (IV only: 60mg/kg/day, Q6H, dose adjust for renal function as needed) for Clindamycin for those with very severe CAP and/or concern for rapid clinical deterioration.

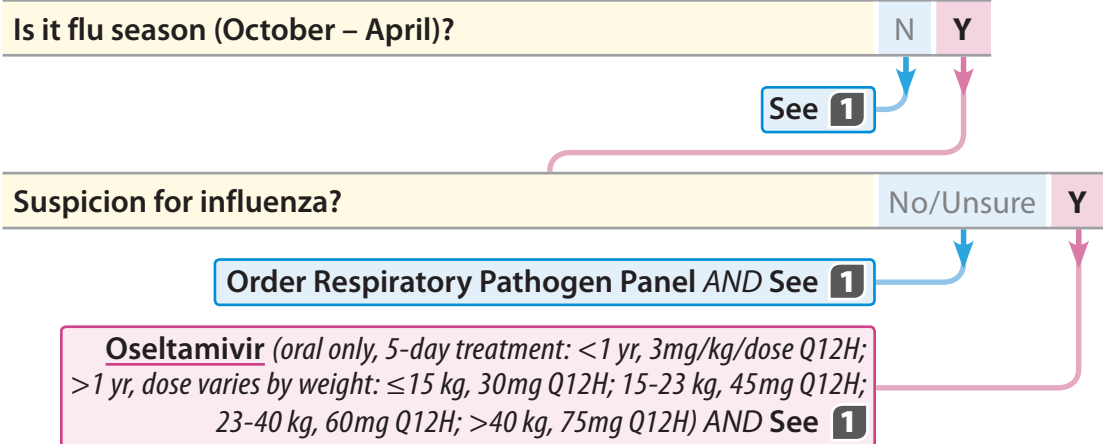
**IN ALL CASES:**

- Recommend CBC with Diff AND Basic Metabolic Panel AND Blood Culture.
- Consider consultation with Pediatric Infectious Diseases for further antibiotic recommendations.

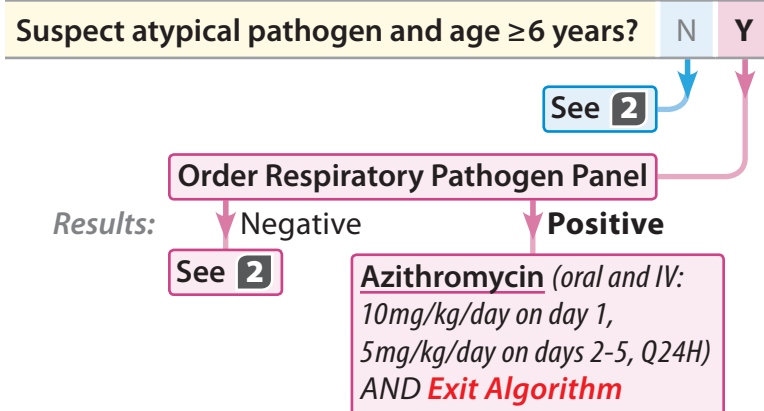
1. If pleural effusion, consider Chest Ultrasound to evaluate character of effusion AND consultation with Pediatric Surgery OR Interventional Radiology for evaluation of drainage.
2. If pleural effusion OR complications, recommend C-reactive Protein.

ICU (Shock, yes or no IMV) Algorithm — patient being admitted to ICU

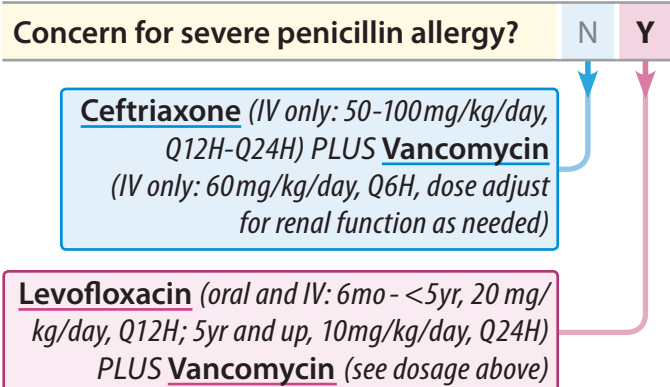
**Start Influenza Considerations:**



**1 Atypical Pathogen:**



**2 Antibiotics & Labs:**



**IN ALL CASES:**

- Recommend **CBC with Diff AND C-reactive Protein AND Basic Metabolic Panel AND Blood Culture.**
- Consider consultation with **Pediatric Infectious Diseases** for further antibiotic recommendations.

**If pleural effusion,** consider **Chest Ultrasound** to evaluate character of effusion AND consultation with **Pediatric Surgery OR Interventional Radiology** for evaluation of drainage.