Uncomplicated Community Acquired Pneumonia (CAP) Guideline

Patients 2 Months -18 Years Of Age With Signs And Symptoms Of Community Acquired Pneumonia (Viral And Bacterial)

Patient Presents To ED/UC With: Fever, And/Or Increased Work Of Breathing

Clinical Exam: Abnormal Auscultatory Findings
(Crackles, Decreased Or Abnormal Breath Sounds)
Suspicious For Pneumonia

Interventions

- Provide O2 To Keep Sats >90%
- Administer Antipyretics For Temp ≥ 101
- Hydrate With Oral Fluids If Tolerated

Reassess

- Inadequate Oral Intake/ Dehydration → Yes → Provide hydration: Oral or Place IV & hydrate with NS
- Signs & Symptoms of Respiratory Distress[1] → Yes → Consider Chest X-ray[3] (2View)

No (both) →

Does Patient meet discharge criteria?[2] → Yes →

Discharge:
- Discharge Teaching (Refer To Teaching Sheet)
- Prescription, See Medication Chart If Bacterial Pathogen Suspected
- Follow-Up With PCP Within 48 Hours

No →

Admit to Inpatient Floor

Interventions

- Provide O2 To Keep Sats >90%
- Fluids As Needed Oral Or IV
- Antibiotics If Bacterial Pathogen Suspected See Medication Chart Pg. 2
- Obtain CXR If Not Already Done

Does Patient Meet Discharge Criteria?[2]

- No → back to Interventions
- Yes →

Discharge:
- Discharge Teaching (Refer To Teaching Sheet)
- Prescription, If Appropriate
- Follow-Up With PCP Within 48 Hours

If No Improvement After ≥ 48 Hours Consider Further Imaging Or Labs Or Consider Placing Patient On The Complicated Pneumonia Guideline

Exclusion Criteria

- Immunocompromised
- Cystic Fibrosis
- Infants <2 Months Of Age
- Nosocomially Acquired Pneumonia (>48 Hrs)
- Moderate To Severe Effusion, Empyema/ abscess, Necrosis
- Medically Complex Patients
- Multilobar Pneumonia
- Suspected Aspiration Pneumonia

[1]Signs And Symptoms Of Respiratory Distress

Tachypnea, Respiratory Rate, Breaths/min:
- Age 2 To12 Months: >60
- Age 18 To 35 Months: >55
- Age 3 To 6 Years: >50
- Age >6 Years: >40

Signs:
- Dyspnea
- Grunting
- Nasal Flaring
- Apnea
- Altered Mental Status
- Pulse Ox <90% On RA
- Retractions (Suprasternal, Intercostal Or Subcostal)

[2] Discharge Criteria

- Adequate PO Intake
- No Respiratory Distress, Reference To Box 3 Below
- Parents Able To Follow-Up With PCP Within 48 Hours Or Access Emergency Care If Needed.
- If Needed, Consult Case Management For Prior Approvals

[3]Diagnostic Testing

ED/Outpatient Consider:
- **2 View CXR: if diagnosis is uncertain or in those that failed initial antibiotic therapy**

Not Recommended:
- **CBCD**
- **CRP**
- **Blood Culture**

Inpatient Recommended:
- **CXR**

Consider:
- **CBCD**
- **Blood culture:**
  - **Failure of first line antibiotic therapy with Lobar Consolidation**
    OR
  - **Moderate to Severe (Presumed) bacterial CAP (Especially if complicated pneumonia; Defer to Complicated Pneumonia Guideline)**
- **CRP**
- **Viral Respiratory Panel**

[4]Admission Criteria

Criteria:
- Sign And Symptoms Of Respiratory Distress
- Vomiting/poor PO Intake
- Inability To Manage Patient At Home
- Lack of Improvement On Outpatient Therapy
- Consider If ≤ 6 Months With Lobar Consolidation

Consider PICU If:
- Fi02 >40%
- PCO2 >55
- PEWS ≥ 5
- Fluid Refractory

	IV choice for admitted patients	Dose & Schedule	Max Single Dosage	PO Step Down and/or Discharge Medications	Dose & Schedule	Max Single Dosage	Total Length
First Line [A]	Ampicillin	75mg/kg q6h	2000mg	Amoxicillin	30mg/kg TID	1000mg	Minimum of 7 days or continue through 48 hours without fever, whichever is longer
First Line with Penicillin Allergy	Clindamycin	13mg/kg q8h	900 mg	Clindamycin	10mg/kg TID	600mg	
Second Line with Penicillin Allergy[B]	Levofloxacin	<5yo:10mg/kg q12h ≥ 5yo:10mg/kg q24h	750mg	Levofloxacin[B]	<5yo:10mg/kg BID ≥ 5yo:10mg/kg QD	750mg	
If Not Fully Immunized against *H.influenzae* or *S.pneumoniae*[C]	Ceftriaxone	75mg/kg q24h	2000mg	Amoxicillin/ Clavulanate[D]	30mg/kg TID	1000mg	
For Atypical Pathogen Coverage[E] Add	Azithromycin	10mg/kg x 1 then 5mg/kg daily x 4 days	500mg	Azithromycin	10mg/kg x 1 then 5mg/kg daily x 4 days	500mg	5 days

[A] Known susceptibility should be used to guide therapy

[B] Consider Levofloxacin in patients with Penicillin allergy AND 1) severe disease OR 2) not fully immunized against *H.influenzae* or *S.pneumoniae*

[C] Definition of fully immunized against *H.influenzae* or *S.pneumoniae:* Up to date for age

[D] Concentration of Amoxicillin/Clavulanate suspensions vary, preferred formulation for patients <40kg is suspension with 600mg Amoxicillin-42.9mg Clavulanate/5mL . For patients ≥ 40kg use the 875mg Amoxicillin-125mg Clavulanate tablets or 400mg Amoxicillin – 57mg Clavulanate/5mL suspension.

[E] If patient on Levofloxacin, atypical pathogens are covered and an addition of azithromycin is not needed.

Lack of improvement on outpatient first line therapy:

- **Ensure patient has been compliant and on appropriate first line therapy for a minimum of 48-72 hrs.**
- **Consider viral (<2 yr.)/atypical (>5 yr.) pneumonia if no response to antibiotic**
- **If bacterial pathogen is suspected:**
  - If patient needs admission, start IV Ampicillin
  - If patient is stable for discharge:
    - ❑ May consider Augmentin if not fully immunized
    - ❑ May consider Clindamycin if fully immunized

    Note: 2nd and 3rd generation oral cephalosporins (Cefprozil, Cefdinir, Cefopodoxime) have **<u>less</u>** activity against pneumococcus than Amoxicillin

Consult SOAP team or Infectious Disease <u>before giving Ceftriaxone or Levofloxacin for patient being discharged home from ED or UC</u>