

Clinical Practice Guideline (CPG)

PNEUMOCOCCAL PNEUMONIA



SCOPE:

Family Care PACE Partnership

AUDIENCE:

Interdisciplinary Team Staff (IDTS),
Clinicians, Providers

PURPOSE:

To provide best practice approach to Community Care Inc. Interdisciplinary team staff, physicians and other providers who care for our members.

Community care Clinical Practice Guidelines (CPG) are recommendations intended to guide an overall approach to care. Please see references for an in-depth review of the condition/disease.

Individual member factors, comorbidities, member preferences and member “goals of care” should be considered when making recommendations for an individual member.

Version: 2.0

Delivery: 06/07/22

Owner: Medical Director

Reviewer: Medical Management, Infection Control

Approver: Medical Director

Date Approved 06/07/22

Review period in years: 3 years

Next Review Date: 06/07/25

CONTENTS:

- 1. Overview of Pneumococcal Pneumonia**
- 2. Best Practice Standards**
 - **Prevention of Community Acquired Pneumonia**
 - **Pneumococcal Vaccination**
 - **Diagnosis of Pneumococcal Pneumonia**
- 3. Prevention and Management of acute issues**
 - **Defining severity and most appropriate site of care**
- 4. Process for Interdisciplinary Team Staff (IDTS)**
- 5. Quality Assurance Monitoring**
- 6. References**

1) Overview of Pneumococcal Pneumonia

- Pneumococcal Pneumonia, a common cause of Community Acquired Pneumonia (CAP) Pneumococcal pneumonia, is a bacterial infection caused by *Streptococcus pneumoniae* (pneumococcus).
- Pneumococcus spreads via droplet infection to a host.
- The host immune response plays an important role in determining disease severity. For some patients, a local inflammatory response within the lung predominates and may be sufficient for controlling infection. In others, a systemic response is necessary to control infection and to prevent spread or complications, such as bacteremia. In a minority, the systemic response can become dysregulated, leading to tissue injury, sepsis, acute respiratory distress syndrome, and/or multiorgan dysfunction.
- Clinical Presentation: The clinical presentation of CAP varies, ranging from mild pneumonia characterized by fever and productive cough to severe pneumonia characterized by respiratory distress and sepsis.
- Symptoms of CAP include cough, dyspnea, pleuritic chest pain, fever/chills, fatigue, malaise and anorexia. If sepsis develops a member can present with hypotension and altered mental status.
- Signs on exam include tachypnea, increased work of breathing, rales/crackles and rhonchi, tachycardia

- Laboratory findings can include leukocytosis with a leftward shift, elevated ESR, C-reactive protein (CRP) and procalcitonin
- Imaging: Chest x ray may show infiltrates in the lung parenchyma
- Risk factors include age ≥ 65 years, chronic comorbidities, concurrent or antecedent respiratory viral infections, impaired airway protection, smoking, alcohol abuse, and other lifestyle factors (eg, crowded living conditions).

2) Best Practice Standards

➤ Prevention of Community Acquired Pneumonia

The three pillars for prevention of CAP are

- Smoking cessation (when appropriate)
- Influenza vaccination for all patients
- Pneumococcal vaccination for at-risk patients

➤ Pneumococcal Vaccination

○ **Adults 65 years or older**

- A routine single dose of PCV20 for adults aged ≥ 65 years.
- Those who received one or more doses of PCV20 before age 65 years should receive another dose of the vaccine at age 65 years or older if at least 5 years have elapsed since their previous PCV20 dose.

○ **Adults 19 through 64 years**

ACIP recommends pneumococcal vaccination for adults 19 through 64 years' old who have certain medical conditions or who smoke.

- Members with Cerebrospinal fluid leaks, or cochlear implants, and who have not previously received pneumococcal vaccine, should receive a dose of PCV20.
- Anyone with any of the conditions listed below who has not previously received the recommended pneumococcal vaccines should receive 1 dose of PCV20.
- Conditions: Sickle cell disease or other hemoglobinopathies, Anatomic or functional asplenia, Congenital or acquired immunodeficiency, HIV infection, Chronic renal failure or nephrotic syndrome, Leukemia or lymphoma, Hodgkin disease, Generalized and metastatic malignancies, Iatrogenic immunosuppression, including radiation therapy, Solid organ transplant, Multiple myeloma
- Anyone who smokes and has not previously received the recommended pneumococcal vaccine should receive 1 dose of PCV20.

- Anyone with any of the following conditions who has not previously received the recommended pneumococcal vaccine should receive 1 dose of PCV20: Alcoholism, Chronic heart disease, Chronic liver disease, Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma, Diabetes mellitus
 - Please see the Recommended Immunization Schedule for Adults 19 years or Older for current and further details of Pneumococcal vaccination.
- **Contraindications and Precautions**
 - Do not administer PCV20 to:
 - A person who has ever had a severe allergic reaction (e.g., anaphylaxis) to any vaccine containing diphtheria toxoid
 - A person with a severe allergy to any component of this vaccine

➤ **Diagnosis of Pneumococcal Pneumonia**

- Demonstration of an infiltrate on chest imaging in a patient with a clinically compatible syndrome
 - Older adults: Signs and symptoms of pneumonia can be subtle in patients with advanced age and/or impaired immune systems, and a higher degree of suspicion may be needed to make the diagnosis. As examples, older patients may present with mental status changes but lack fever or leukocytosis.
 - In immunocompromised patients, pulmonary infiltrates may not be detectable on chest radiographs but can be visualized with computed tomography
- Antibiotic selection for CAP

3) Prevention and Management of Acute Issues

➤ **Defining severity and most appropriate site of care**

- **Ambulatory care** – Most patients, who are otherwise healthy with normal vital signs (apart from fever) and no concern for complication, are considered to have mild pneumonia and can be managed in the ambulatory setting.
- **Hospital admission** – Patients who have altered mental status, confusion, low blood pressure, respiratory rate ≥ 30 breaths per minute, temperature < 96.8 degrees F, or peripheral oxygen saturations < 92 percent on room air (and a significant change from baseline) should be hospitalized.
- Practical concerns that may warrant hospital admission include an inability to take oral medications, cognitive or functional impairment, or other social issues that could impair medication adherence or ability to return to care for clinical

worsening (eg, substance abuse, homelessness, or residence far from a medical facility).

- **Scoring systems:** PSI and CURB are the most frequent systems used to determine level of care if oxygen saturation $\geq 92\%$ on room air.
- **Microbiologic testing:** Most patients with mild CAP being treated in the ambulatory setting do not need microbiologic testing.
- **Empiric Antibiotic Treatment:** Cover the most common bacterial causes of CAP in the outpatient setting. If not allergic high-dose, Amoxicillin and Amoxicillin-clavulanate are preferred, as they remain active against most strains of *S. pneumoniae*, despite rising resistance among other Antibiotics. Other antibiotics are added to cover atypical agents as well as depending on the age, co-morbidities, prior antibiotic use or other history of the member.

4) Process for Interdisciplinary Team Staff (IDTS)

- Review immunization status at initial, and at each MCP review assessment
- Educate members regarding risks and benefits of Pneumococcal vaccination if have not received age or risk appropriate vaccination.
- Offer pneumococcal vaccination utilizing a shared decision making process.
- Use motivational interviewing techniques to assess barriers to immunization.
- Collaborate with Primary Care Provider (PCP).

5) Quality Assurance Monitoring

- Community care monitors quality of care provided to all its members via Internal file review, target audits, risk reports, HEDIS data, Acumen data, electronic health record guideline reports, Clinical Dashboards and feedback from providers.
- Community care recognizes that Clinical Practice Guidelines are intended to assist in decision-making and may not apply to all members or circumstances, and complete compliance is not expected for all guidelines.

6) References

- Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine Among Adults Aged ≥ 65 Years: Updated Recommendations of the Advisory Committee on Immunization Practices Weekly / November 22, 2019 / 68(46);1069–1075
- Table 1. Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2022 <https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html> Accessed 5/27/2022
- Pneumococcal Vaccine Timing for Adults-Centers for Disease Control NCIRDig410 | 06/25/20
- Overview of community-acquired pneumonia in adults
Author: Julio A Ramirez, MD, FACP Section Editor: Thomas M File, Jr, MD
Deputy Editor: Sheila Bond, MD
Literature review current through: Jul 2021. | This topic last updated: Jun 21, 2021