

# Pneumococcal Disease

## Prevention and Wellness Practice Guideline



### Overview of the Condition/Disease

**Definition:** Pneumococcus bacteria can cause a variety of illnesses, from ear infections to pneumonia. There are four different vaccines to prevent pneumococcal disease, PPSV23 or Pneumovax 23, PCV13, PCV15, and PCV20. These vaccines prevent against a wide variety of pneumococcal bacteria serotypes. Pneumococcal pneumonia is the most common clinical presentation among adults.

**Pathophysiology:** Pneumococcus bacteria is spread from person to person through droplets. Pneumococcal infections are more common in the winter and early spring. The infectious period is unknown, but it is presumed that transmission can occur if the organism is present in secretions.



### Best Practice Standards for Prevention and Management

#### Education:

- Pneumococcal pneumonia is the most common form of pneumococcal disease in adults and is stated to account for approximately 10% of hospitalized community-acquired pneumonia (CAP) cases.
- The best way to prevent pneumococcal disease is to receive the vaccination.
- Proper hand hygiene is important.
- Get the Influenza vaccine every year; having the flu increases your chances of getting pneumococcal disease.

#### Interventions:

- All adults 65 years and older should receive the pneumococcal vaccine:
  - ACIP recommendations specify the use of either PCV20 alone or PCV15 in series with PPSV23 for all adults aged  $\geq 65$  years and for adults aged 19–64 years with certain underlying medical conditions or other risk factors who have not received a PCV or whose vaccination history is unknown.
- In addition, ACIP recommends use of either a single dose of PCV20 or  $\geq 1$  dose of PPSV23 for adults who have started their pneumococcal vaccine series with PCV13 but have not received all recommended PPSV23 doses.
- Shared clinical decision-making is recommended regarding use of a supplemental PCV20 dose for adults aged  $\geq 65$  years who have completed their recommended vaccine series with both PCV13 and PPSV23.
- Updated and new clinical guidance for implementation from CDC includes the recommendation for use of PCV15 or PCV20 for adults who have received PPSV23 but have not received any PCV dose.

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### Conditions that may necessitate the vaccine prior to age 65:

Smoking	Cancer
Chronic illnesses such as: heart, lung, kidney and liver disease	Damaged/absent spleen
Diabetes	Cochlear implants or CSF leaks
HIV/AIDS	Alcoholism

### Contraindications and Precautions to Vaccine:

- Contraindication:** A condition in a recipient that increases the risk for a serious reaction to vaccination are conditions under which vaccines should not be administered.
- Precaution:** A condition in a recipient that might increase the risk for a serious adverse reaction, might cause diagnostic confusion, or might compromise the ability of the vaccine to produce immunity (e.g., administering measles vaccine to a person with passive immunity to measles from a blood transfusion administered up to 7 months prior). In general, vaccinations should be deferred when a precaution is present. However, a vaccination might be indicated in the presence of a precaution if the benefit of protection from the vaccine outweighs the risk for an adverse reaction.

Vaccine	Precaution	Contraindication
	A vaccine should be deferred when a precaution is present.	A vaccine should not be given when a contraindication is present.
<b>Pneumococcal Polysaccharide Vaccine (PPSV23)</b>	Moderate or severe acute illness with or without fever  *Note: A history of invasive pneumococcal disease or pneumonia is incorrectly perceived as a contraindication or precaution to PPSV23 vaccination (i.e., vaccines may be given under these conditions).	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
<b>Pneumococcal Conjugate Vaccine (PCV13, PVC15 and PVC 20)</b>	Moderate or severe acute illness with or without fever	Severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV or any diphtheria-toxoid-containing vaccine or to a

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		component of a vaccine (PCV or any diphtheria-toxoid-containing vaccine)
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\*Any other contraindication(s), precaution(s), or reason(s) stated by a member for not obtaining the influenza vaccine should be documented in the member record.

\*If a prescribing health care provider defers a vaccination on the basis of a precaution, the precaution is to be counted as a contraindication.

### Anticipating, Recognizing, and Responding to Symptoms



Seek timely medical attention when current interventions and/or medications are not managing symptoms.

#### Potential symptoms:

- Pneumococcal pneumonia: fever chills, cough, rapid breathing or difficulty breathing, chest pain
- Pneumococcal meningitis: stiff neck, fever, headache, light sensitivity, confusion
- Pneumococcal bacteremia: fever, chills, low alertness
- Sepsis: confusion or disorientation, shortness of breath, rapid heart rate, fever, shivering or feeling very cold, extreme pain or discomfort, clammy or sweaty skin
- Middle ear infections: ear pain, red/swollen ear drum, fever, sleepiness

#### Manifestation of symptoms:

- Most infections are mild, however, some can be deadly or result in long term problems such as brain damage or hearing loss.
- Hospitalization can occur with pneumonia, meningitis, bacteremia or sepsis



#### Interventions to manage symptoms:

- Antibiotics are used to treat most pneumococcal bacterial diseases.



### Guidelines and Process for Interdisciplinary Team

Care teams are responsible for educating and assisting members with receiving the pneumococcal vaccine from a qualified provider if medically indicated.

- Care teams must document members vaccination dates or refusals in MIDAS.
- Care teams may assist members with coordinating care with providers and finding transportation

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### Health Equity Considerations

- In general: ethnic and cultural minority groups have continued to experience a disproportionate burden of disease, injury, premature death, and disability when compared to the Caucasian population
- Health disparities can mean lower life expectancy, decreased quality of life, loss of economic opportunities, as well as perceptions of injustice
- Health disparities are reflected in decreased productivity, increased health care costs, and social inequities
- Contributing factors to ethnic, cultural, and gender disparities:
  - Mistrust in the health care system (stemming from historical mistreatment or neglect)
  - Personal and group experiences of discrimination
  - Lack of health literacy
  - Provider prejudice or unconscious bias
  - Lack of cultural competency and clinical humility among health care providers
  - Discordance in patient-provider gender, race, and/or ethnic background
  - Lack of minority representation among health care providers (only 19% of RNs in the workforce are from racial or ethnic minorities)



### Quality Assurance Monitoring

The Quality Department of My Choice Wisconsin tracks pneumococcal vaccination compliance annually for members over the age of 65 as of July 1<sup>st</sup> of each measurement year.



### Additional Resources

#### **Pneumococcal Education Resources for MCO members and staff**

Pneumococcal vaccine timing for adults (table format)

<https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf>

**National Foundation of Infectious Diseases** (February 2023)

[Pneumococcal Disease – NFID](#)

**CDC** (April 2023) Pneumococcal Disease

[Communication and Print Resources | CDC](#)

**Immunize.org** (June 19, 2023)

[Ask the Experts: Pneumococcal Vaccines \(immunize.org\)](#)

**To report a vaccine adverse event** to the Vaccine Adverse Event Reporting System:

[Vaccine Adverse Event Reporting System \(VAERS\) \(hhs.gov\)](#)

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ACIP Shared Clinical Decision-Making Recommendations

<https://www.cdc.gov/vaccines/acip/acip-scdm-faqs.html>



### References

Centers for Disease Control and Prevention (CDC). (2023, October, 18). *Vaccine recommendations and guidelines of the ACIP Pneumococcal ACIP vaccine recommendations.*

<https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumo.html>

Centers for Disease Control and Prevention (CDC). (2023, October, 18). *Vaccines and preventable diseases Pneumococcal vaccine recommendations.*

<https://www.cdc.gov/vaccines/vpd/pneumo/hcp/recommendations.html>

<https://www.cdc.gov/mmwr/volumes/71/wr/pdfs/mm7104-h.pdf>

Kobayashi, M., Farrar, J., Gierke, R., Britton, A., Childs, L., Leidner, A., Campos-Outcalt, D., Morgan, R., Long, S. S., Talbot, H. K., Poehling, K., & Pilishvili, T. (2022, January 28). Use of 15-Valent Pneumococcal Conjugate Vaccine and 20-Valent Pneumococcal Conjugate Vaccine Among U.S. Adults: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2022. *Morbidity and Mortality Weekly Report*, 71(4), pp. 109-117.

Kobayashi, M., Pilishvili, T., Farrar, J.L., Leidner, A.J., Gierke, R., Prasad, N., Moro, P., Campos-Outcalt, D., Morgan, R.L., Long, S.S., Poehling, K.A. & Cohen, A.L. (2023, September 8).

Pneumococcal vaccine for adults aged  $\geq 19$  years: Recommendations of the Advisory Committee on Immunization Practices, United States, 2023.

<https://www.cdc.gov/mmwr/volumes/72/rr/pdfs/rr7203a1-H.pdf>

Kroger, A, Bahta, L., Long, S. & Sanchez, P. (2023, August 1). *General Best Practice Guidelines for Immunization. Best Practices Guidance. ACIP General Best Practice Guidelines for Immunization | CDC*