

Pneumococcal Disease

Clinical Practice Guideline



Overview of the Condition/Disease

Definition: Pneumococcus bacteria can cause a variety of illnesses, from ear infections to pneumonia. There are three different vaccines to prevent pneumococcal disease, PPSV23 or Pneumovax 23, PCV 15 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:

- 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
 - The ACIP now recommends use of either PCV20 alone or PCV15 in series with PPSV23 for all adults aged ≥ 65 years, and for adults aged 19–64 years with certain underlying medical condition PCV or whose previous vaccination history is unknown.
- Use of PCV20 alone or PCV15 in series with PPSV23 is expected to reduce pneumococcal disease incidence in adults aged ≥ 65 years and in those aged 19–64 years with certain underlying conditions. Findings from studies suggested that the immunogenicity and safety of PCV20 alone or PCV15 in series with PPSV23 were comparable to PCV13 alone or PCV13 in series with PPSV23. Cost-effectiveness studies demonstrated that use of PCV20 alone or PCV15 in series with PPSV23 for adults at age 65 years was cost-saving.
- All adults age 65 years and older without a prior PCV vaccination are now routinely recommended to receive either PCV20 alone or a 2-dose series of PCV15 followed by PPSV23 one year later. PCV13 is no longer recommended for adults.

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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.
Pneumococcal Polysaccharide Vaccine (PPSV23)	Moderate or severe acute illness with or without fever	Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
Pneumococcal Conjugate Vaccine (PCV15)	Moderate or severe acute illness with or without fever	Severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV15 or any diphtheria-toxoid-containing vaccine or to a component of a vaccine (PCV15 or any diphtheria-toxoid-containing vaccine), including yeast
Pneumococcal Conjugate Vaccine (PCV20)	Moderate or severe acute illness with or without fever	Severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV20 or any diphtheria-toxoid-containing vaccine or to a component of a vaccine (PCV20 or any diphtheria-toxoid-

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		containing vaccine), including yeast
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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 1st of each measurement year.



Additional Resources

Pneumococcal Education Resources for MCO members and staff

- National Foundation of Infectious Diseases (December 2019)
<https://www.nfid.org/infectious-diseases/pneumococcal/>
- Centers for Disease Control and Prevention (November 21, 2019)
<https://www.cdc.gov/pneumococcal/resources/materials.html>

ACIP Shared Clinical Decision-Making Recommendations

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

Immunization Action Coalition Information on PVV 13 and PPSV23

(Last update: July 30, 2020)

http://www.immunize.org/askexperts/experts_pneumococcal_vaccines.asp

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