

Pneumococcal Disease: Background and Vaccine Recommendations

Pneumococcal Disease and Influenza:

- Pneumococcal disease, which can occur any time of year, is also a common and serious complication of influenza
- The best way to protect against both pneumococcal disease and influenza is through vaccination, which can help to reduce severity of illness and death. Pneumococcal vaccination is recommended for children and adults based on age and certain risks factors.

The Impact of Pneumococcal Disease:

- Pneumococcal disease causes pneumonia, meningitis, and bloodstream infection (sepsis). It also causes other, less serious infections such as otitis media and sinusitis.
- About 90 percent of severe cases of pneumococcal disease in the US occur in individuals age 18 years and older.^{1,2} This is largely due to high vaccination rates among US children.
 - Approximately 900,000 US adults get pneumococcal pneumonia every year and about 5 to 7 percent will die from it.² Fewer will get pneumococcal meningitis or sepsis, but the mortality rate in this group is higher (20 percent or more).³
 - Pneumococcal pneumonia, meningitis, and sepsis kill thousands in the US each year, including 18,000 adults age 65 years and older.⁴
- Pneumococcal disease can cause lifelong complications. Pneumococcal meningitis can cause hearing loss, seizures, blindness, and paralysis, while serious heart problems are common among patients hospitalized with pneumococcal pneumonia.

Pneumococcal Disease Symptoms:

Pneumococcal disease can strike quickly and without warning. Depending on whether the infection causes pneumonia, sepsis, or meningitis, individuals may experience some combination of the following:

- Very sudden onset of high fever, shaking/chills, cough, shortness of breath, chest pain, stiff neck, and disorientation.
- Symptoms may be less specific in elderly patients. Older patients may experience confusion or lack of alertness.⁵

Pneumococcal Vaccination:

- Pneumococcal vaccination is recommended for all adults age 65 years and older, all infants and toddlers, and for those ages 2 through 64 years who have certain health risk conditions.⁶
- Two vaccines are currently recommended in the US: pneumococcal conjugate vaccine (PCV13) and pneumococcal polysaccharide vaccine (PPSV23).
 - The timing and number of pneumococcal vaccines varies based on an individual's age and health conditions.
 - Unlike influenza vaccines, pneumococcal vaccines are not needed every year.
 - Those who need both influenza and pneumococcal vaccines may get them during the same visit, but in different arms. However, **patients should not wait to get the pneumococcal vaccine** because pneumococcal disease can occur any time of year.
- Pneumococcal vaccines are fully covered by Medicare, as long as they are given at least one year apart. The Affordable Care Act calls for insurers to cover these types of preventive vaccines as well.
- Vaccination reduces the chances of becoming infected with pneumococcal bacteria and is associated with improved survival, reduced chances of respiratory failure or other complications, and shorter in-patient stays for adults hospitalized with community-acquired pneumonia caused by pneumococcal disease.⁷

Vaccine Safety:

- Either vaccine may cause some local reaction or soreness around the site of the injection; however, these reactions are usually minor and subside within a few days.
- In children, vaccination may cause mild fever, fussiness, and decreased appetite.

Pneumococcal Vaccine Recommendations for Children and Adults*

Children ⁶	Adults ⁶
<p>PCV13</p> <ul style="list-style-type: none">• All infants should receive the pneumococcal conjugate vaccination series	<p>PCV13 and PPSV23</p> <ul style="list-style-type: none">• Everyone age 65 years and older (one dose of each)• Adults age 19-64 years with any of the following conditions:<ul style="list-style-type: none">○ Conditions that weaken the immune system, such as chronic kidney disease, HIV/AIDS, lymphoma, leukemia, Hodgkin's disease, damaged/absent spleen; on steroids or other immunosuppressive therapy○ Cochlear implants or cerebrospinal fluid (CSF) leaks
<p>PPSV23</p> <ul style="list-style-type: none">• Children and adolescents age 2 years and older also need a polysaccharide vaccine if they have any of the following conditions or factors:<ul style="list-style-type: none">○ Lung, heart, liver, or kidney disease; asthma; diabetes; or sickle cell disease○ Conditions that weaken the immune system, such as HIV/AIDS, cancer, damaged or absent spleen○ Cochlear implants or cerebrospinal fluid (CSF) leaks○ Reside in chronic-care or long-term care facilities	<p>PPSV23</p> <ul style="list-style-type: none">• Adults age 19-64 years with any of the following conditions: asthma; diabetes; lung, heart, or liver disease; or alcoholism• Adults age 19-64 years who smoke• Adults age 19-64 years who reside in chronic-care or long-term care facilities

*For more information about pneumococcal disease prevention visit:

www.cdc.gov/vaccines/vpd-vac/pneumo/ and www.adultvaccination.org/pneumococcal

References

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4. Centers for Disease Control and Prevention. Adults: Protect Yourself with Pneumococcal Vaccines. www.cdc.gov/features/adult-pneumococcal. Accessed September 23, 2016.
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6. Centers for Disease Control and Prevention. Pneumococcal ACIP Vaccine Recommendations. www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumo.html. Accessed September 23, 2016.
7. Fisman DN, Abrutyn E, Spaude KA, et al. Prior pneumococcal vaccination is associated with reduced death, complications, and length of stay among hospitalized adults with community-acquired pneumonia. *Clinical Infectious Diseases*, 2006;42:1093-1101.