

Q&A PNEUMOCOCCUS: WHAT YOU SHOULD KNOW

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While most people do not think about a bacteria called pneumococcus, they are likely familiar with its effects. Parents of young children have probably endured at least one ear infection with their child. Pneumococcus causes about 7 of every 100 ear infections in young children. Likewise, older adults, or their adult children who care for them, may be familiar with a seemingly prolonged respiratory infection that appeared to be getting better only to suddenly worsen or “turn into pneumonia.” The “sudden worsening” is typically attributable to the opportunistic nature of pneumococcal bacteria, which capitalize on weakened immunity following a viral infection, such as influenza, to invade the lungs and cause severe pneumonia. This back-to-back infection scenario is why so many older adults succumb to pneumonia during influenza season and why both influenza and pneumococcal vaccines are important in protecting this high-risk population.

Q. What is pneumococcal disease?

A. Pneumococcal infections are caused by a group of bacteria known as *Streptococcus pneumoniae*. Several types of pneumococcal bacteria exist and many can cause infections in people. Pneumococcus can lead to infections of the ears, sinuses, brain and spinal cord (meningitis), lungs (pneumonia) or bloodstream (sepsis).

Q. What are the symptoms of pneumococcal disease?

A. Symptoms of pneumococcal disease can vary based on the site of infection and may include cough, shortness of breath, chest pain, fever, bloody mucus, ear pain, headache, or stiff neck.

Q. Is pneumococcal disease dangerous?

A. The majority of pneumococcal infections are mild; however, some can be serious, even life-threatening. Sinus and ear infections are among the mildest forms of infection. Meningitis, sepsis, and pneumonia tend to be more serious.

Q. Who should get the pneumococcal vaccine?

A. The conjugate vaccine is recommended for all children under the age of 2 and for adults 65 years or older. Adults over 65 years should also get a dose of the polysaccharide vaccine at least one year after getting the conjugate vaccine.

Some people have conditions that put them at greater risk of pneumococcal infections, such as those with chronic diseases of the heart, liver or lungs, including asthma; those with diabetes, cancer, HIV or other immune-compromising conditions; and those who smoke. Because the recommendations are based on age and condition, talk to your doctor about whether you or your child need one or both pneumococcal vaccines.

Q. Who shouldn't get the pneumococcal vaccine?

A. People with severe allergic reactions to components of the vaccine may be recommended against being vaccinated; however, consult your doctor about the relative risks and benefits of this vaccine.

Q. How is the pneumococcal vaccine made?

A. The pneumococcal vaccine is made using the sugar coat (polysaccharide) of pneumococcal bacteria. Two types of pneumococcal vaccine are available. The vaccines differ in two important ways: the number of types of pneumococcus they protect against and the presence or absence of a “helper” protein. The polysaccharide pneumococcal vaccine (often referred to as PPSV23) protects against 23 types of pneumococcus and does not include the “helper” protein. Because children younger than two years of age do not generate strong immune responses to polysaccharides, infants are not recommended to routinely receive PPSV23.

Rather, they are recommended to receive the vaccine that contains the “helper” protein. Known as the conjugate pneumococcal vaccine (often referred to as PCV13), this version protects against 13 types of pneumococcus. Because some children have conditions that put them at increased risk of pneumococcal infection and because the polysaccharide version protects against ten additional types, some children at highest risk of pneumococcus are recommended to receive both versions. Talk with your doctor to find out which is best for you or your child.



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Q. How often should I get the vaccine?

A. Infants get four doses of the conjugate vaccine at 2 months, 4 months, 6 months, and between 12 and 15 months.

Adults age 65 and older, who did not previously receive pneumococcal vaccine, should get one dose of the conjugate vaccine followed by one dose of the polysaccharide vaccine a year later. Adults who were previously vaccinated against pneumococcus should discuss proper dosing with their healthcare provider.

Additionally, high risk children and adults between 2 and 64 years of age should consult their healthcare providers to ensure proper dosing.

Q. Do I need both pneumococcal vaccines?

A. Most adults 65 years and older are recommended to get both versions. The second version (PPSV23) increases protection by protecting against additional strains of pneumococcal bacteria.

Q. What is the maximum amount of time I can wait between the doses?

A. There is no maximum amount of time between the two vaccines; however, they should be separated by at least one year.

Q. If I've already had pneumococcal pneumonia, do I still need to be vaccinated?

A. Yes. Even if you've had pneumococcal pneumonia, it is still recommended to get both pneumococcal vaccine injections when you turn 65 because of the many types of the bacteria that can cause infection.

Q. What are the risks and benefits of getting the vaccine?

A. The vaccine can cause redness, pain, and swelling at the site of injection; fever; or muscle aches.

Because infections with pneumococcus can result in hospitalization and death, the benefits of vaccination clearly outweigh the risks.



Older adults may be familiar with a seemingly prolonged respiratory infection that appeared to be getting better only to suddenly worsen. The “sudden worsening” is attributable to the opportunistic nature of pneumococcal bacteria.

This information is provided by the Vaccine Education Center at Children's Hospital of Philadelphia. The Center is an educational resource for parents and healthcare professionals and is composed of scientists, physicians, mothers and fathers who are devoted to the study and prevention of infectious diseases. The Vaccine Education Center is funded by endowed chairs from Children's Hospital of Philadelphia. The Center does not receive support from pharmaceutical companies.