

What is *Streptococcus pneumoniae*?

It is a bacterium that commonly causes ear infections in children. It also is the most common cause of community-acquired pneumonia, sinus infections and “pink-eye.” It is also the most common cause of bacterial meningitis in babies two months and older.

Who is at risk for *Streptococcus pneumoniae*?

Anyone can become infected. However, people at higher risk for infection are the elderly, children younger than two, children who attend group day-care centers and people with recent viral illness or underlying medical conditions.

What are the symptoms of *Streptococcus pneumoniae*?

Symptoms depend on the type of infection:

- If ear infection develops, symptoms may include ear pain, fever, balance problems, trouble sleeping and change in behavior. Babies and children will tug on their ears or may be inconsolable.
- If pneumonia develops, symptoms may include sudden onset of high fever, productive cough (with mucus), headache and shortness of breath.
- If pinkeye develops, symptoms may include thick discharge which causes the lids to stick together, especially after sleeping. The eyes may be red, watery, crust, and feel gritty or like sandpaper.
- If sinus infection develops, symptoms include nasal congestions, headache, thick nasal mucus, face and tooth pain, loss of smell, sore throat, fever, and post nasal drip.

How soon do symptoms appear?

Symptoms may appear in one to three days. However, children are much more likely to carry this bacterium around in their noses and throats and not have any symptoms.

How is *Streptococcus pneumoniae* spread?

- Ear infections: There is no person-to-person spread; however, before and after cleaning the ear or adding drops, it is always good practice to wash hands thoroughly.
- Pneumonia/Sinusitis: People spread pneumonia mostly through respiratory droplets from their nose or mouth, even if they don't have any symptoms.
- Pinkeye: People can get pinkeye by coming into contact with tears or discharges from the eyes of an infected person and then touching their own eyes.

When and for how long is a person able to spread the disease?

This will depend on the illness. With pneumonia, a person is usually no longer contagious after 24 to 48 hours of antibiotics. For other illnesses, consult with a health-care provider for prevention guidance.

How is a person diagnosed?

Diagnosis depends on the illness.

What is the treatment?

Most people with *Streptococcus pneumoniae* are treated with antibiotics.

Does past infection make a person immune?

Yes. A person does build immunity to *S. pneumoniae*; however, there are many different types of *S. pneumoniae* and one type does not cause immunity for another. In a person's lifetime, he or she may become infected with several different types of *S. pneumoniae*.

Should children or others be excluded from child care, school, work or other activities if they have *Streptococcus pneumoniae*?

Children should be excluded from a child care setting if the illness prevents the child from participating or if the child has a fever, lethargy, irritability, persistent crying or shortness of breath. If the staff feels that they are jeopardizing the health and/or safety of other children in the group by having to care for the child, the child also may be excluded.

If there is only one child in a child care who has pinkeye, then no exclusion is necessary, unless the child has a fever and behavioral changes (i.e., unwilling to participate in activities or when caring for the individual compromises the care of others in the group). If two or more children in a child care develop conjunctivitis in the same time period, children with symptoms should be excluded until evaluated by a health care provider.

What can be done to prevent the spread of *Streptococcus pneumoniae*?

There are two vaccines available in the United States that prevent *S. pneumoniae*. The PCV-13 vaccine (Pevnar[®]) protects against thirteen different types of *S. pneumoniae*. Children are recommended to receive four doses at 2, 4, 6 and 12 to 15 months of age. Adults are also recommended to receive a dose of PCV13 at age 65. Older children and adults with certain high risk conditions may also be recommended to receive a dose of PCV13.

The PPSV-23 vaccine (Pneumovax[®]) protects against 23 different types of *S. pneumoniae*. All adults ages 65 and older should receive one dose at least one year after the PCV13 vaccine. Also, anyone ages 2 through 64 who is at high risk for pneumococcal disease should receive a dose of PPSV-23. Contact your health care provider to see if you are at high risk.

Additional Information:

Additional information is available at www.ndhealth.gov/disease or by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resource:

American Academy of Pediatrics. [Pneumococcal infections.] In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015: 626-638.