**Streptococcus pneumoniae**  
*(Ear Infections, Pinkeye, Pneumonia)*

**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 (Prevnar®) 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. pneumonia*. 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](http://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: