



# Pneumococcal Disease

(including *Streptococcus pneumoniae*, invasive)

## What is Pneumococcal Disease?

Pneumococcal disease is an infection caused by a type of bacteria called *Streptococcus pneumoniae*. These bacteria are commonly found in the nose and throat of healthy adults and children but do not cause infections most of the time. The disease can cause infections of the ear, lung, lining of the brain and spinal cord, and blood. It more frequently occurs during the winter months.

A more serious form of the disease occurs when the bacteria have infected the blood, lung or the lining of the brain or spinal cord. It is called invasive pneumococcal disease (IPD) and is most common in the very young, the elderly and certain specific groups at high risk, such as individuals without a functioning spleen, or a weakened immune system including acquired immune deficiency syndrome (AIDS).

Pneumococcal disease can cause death. In some cases, it can result in long-term problems, like brain damage, hearing loss, and loss of a limb.

## At risk of Pneumococcal Disease

Although anyone can get pneumococcal disease, it occurs more frequently in infants, young children, Aboriginals, the elderly or in people with serious underlying medical conditions such as chronic lung, heart or kidney disease. Others at risk include alcoholics, diabetics, and individuals who smoke. Children with cochlear implants have higher rates of pneumococcal meningitis.

## Symptoms of Pneumococcal Disease

*Streptococcus pneumoniae* causes different symptoms depending on the part of the body it infects. Symptoms may develop one to three days after exposure.

- Pneumococcal pneumonia (disease of the lung): Symptoms include sudden onset of high fever, shaking chills, chest pain, difficulty breathing, increased heart rate and a cough with “rusty-coloured” sputum. In the elderly, onset may be less abrupt, with symptoms of fever, shortness of breath or altered mental status. They may experience only a slight rise in temperature but more rapid breathing. In infants and young children, initial symptoms may include fever, vomiting and seizures.
- Pneumococcal meningitis (disease of the brain and spinal cord): Symptoms include headache, high fever, neck stiffness, vomiting, mental confusion and disorientation, and sensitivity to light. In small children, symptoms include fever, irritability, poor appetite and drowsiness. Pneumococcal

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**TTY 1-866-252-9933 or visit [www.york.ca](http://www.york.ca)**

meningitis is not usually associated with any skin rash. A person with this type of meningitis does not pass it on to others.

- Pneumococcal bacteraemia (infection in the blood): Symptoms include a high fever, muscle aches and pains, lack of energy, and drowsiness.

## How Pneumococcal Disease spread

Pneumococcal bacteria can spread in three ways:

- Through the air by coughing or sneezing
- Through direct contact with an infected person's saliva, for example kissing or sharing drinks and cigarettes
- Through contact with items soiled with nose or throat secretions from an infected person (e.g., children sharing toys).

Infection is generally not regarded as contagious because so many factors can affect whether someone who has become infected with the organism actually develops the disease.

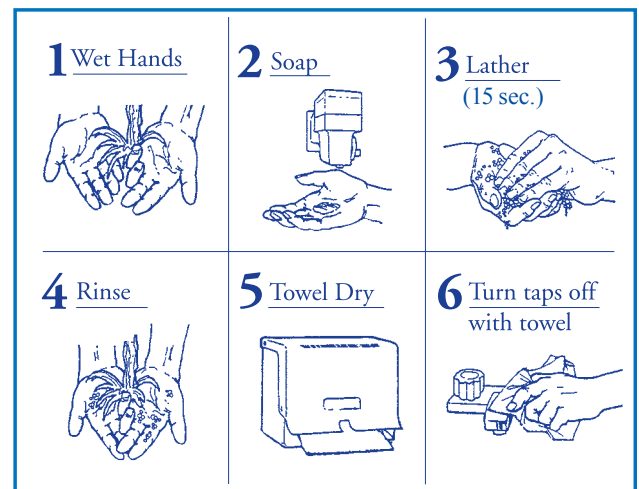
## Preventing Pneumococcal Disease

There are 91 different known variations (serotypes) of the bacteria. Some are more common in certain geographical areas and age groups. Presently, there are two types of vaccines available in Canada to prevent pneumococcal diseases – conjugate and polysaccharide vaccine.

For more information, please see the Pneumococcal Vaccines information sheet available at [www.york.ca/immunization](http://www.york.ca/immunization).

Pneumococcal disease can also be prevented through the following measures:

- Practise good hygiene. Wash hands thoroughly and often with soap and water, using the six-step method in the diagram, or clean hands with an alcohol-based hand cleaner
- Cover your mouth and nose with a tissue when you cough or sneeze
- If you don't have a tissue, cough or sneeze into your upper sleeve, not your hands
- Put your used tissue in the waste basket
- Clean your hands after coughing or sneezing



## Treating Pneumococcal Disease

People with pneumococcal disease can be treated with antibiotics.

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