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. Infections usually occur in the ear, lung, lining of the brain and spinal cord, and blood. Pneumococcal disease is more common during the winter months.

A more serious form of the disease, called invasive pneumococcal disease (IPD), occurs when the bacteria have infected the blood, lung or the lining of the brain or spinal cord. Young infants, older adults and certain high-risk groups such as individuals without a functioning spleen, or a weakened immune system including acquired immune deficiency syndrome (AIDS) are at a greater risk of IPD.

In some cases pneumococcal disease can result in long-term problems, like brain damage, hearing loss, and loss of a limb. In more serious cases it can lead to death.

Who is at risk of Pneumococcal Disease?

Although anyone can get pneumococcal disease, it occurs more frequently in infants, young children, indigenous individuals, older adults or in people with serious underlying medical conditions such as chronic lung, heart or kidney disease. Others at risk include people with alcohol use disorders, people with diabetes, and individuals who smoke. Children with cochlear implants have higher rates of pneumococcal meningitis.

What are the 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 (mixture of saliva and mucus). 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 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.

York Region

How does 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.

How is Pneumococcal Disease treated?

People with pneumococcal disease can be treated with antibiotics.

How can Pneumococcal Disease be prevented?

There are 92 different known variations (serotypes) of the bacteria. Some are more common in certain geographical areas and age groups. Presently, there are two conjugate vaccines available in Canada to prevent pneumococcal diseases.

Pneumococcal disease can also be prevented through the following measures:
- Practicing 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.
- Covering 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.
- Putting your used tissue in the waste basket.
- Clean your hands after coughing or sneezing.