

Pneumococcal Disease Fact Sheet

This fact sheet provides basic information only. It must not take the place of medical advice, diagnosis or treatment. Always talk to a healthcare professional about any health concerns you have, and before you make any changes to your diet, lifestyle or treatment.

What is invasive pneumococcal disease?

Invasive pneumococcal disease (IPD) is caused by bacteria known as *Streptococcus pneumoniae*. IPD can lead to community-acquired pneumonia and bacteremic pneumonia. Other pneumococcal infections include otitis media (ear infection), sinusitis, bacteremia (bloodstream infection), meningitis (infection of the lining of the brain and spinal cord) and endocarditis (infection of the inner lining of the heart and the heart valves). Bacteremia without a known site of infection is the most common way it manifests in children under two years old.

IPD is an important cause of illness in children. The risk of IPD is highest in the very young and the elderly. In addition, the risk of IPD has been found to be more than 20-fold higher in young children attending child care centres.

What is *Streptococcus pneumoniae*?

Streptococcus pneumoniae are bacteria commonly found in the upper respiratory tract of approximately 15% of healthy adults and up to 65% of children in child care centres. The bacterium can disseminate and cause invasive disease. Nasopharyngeal (NP) carriage is necessary for *Streptococcus pneumoniae* transmission and invasive infection.

Ninety serotypes have been identified. However, only a few serotypes produce the majority of invasive disease.

How is the *Streptococcus pneumoniae* bacteria that causes pneumococcal disease spread?

The *Streptococcus pneumoniae* bacteria are transmitted from person to person as a result of direct contact with respiratory droplets or by autoinoculation in persons carrying the organism in the upper respiratory tract. While some people who carry these bacteria in their throat or nose remain healthy, they are able to spread it to others.

To prevent the spread of pneumococcus, persons should not share objects that have come in contact with another person's mouth. Furthermore everyone should clean their hands thoroughly and often with soap and water or with a hand sanitizer that contains 60-90% alcohol. When coughing or sneezing, use a tissue or your sleeve to cover it.

What are the symptoms of IPD?

The signs and symptoms of invasive pneumococcal disease can vary widely. Symptoms most often include the sudden onset of fever, chills or rigors, pleuritic (painful breathing and coughing) chest pain, productive cough, rusty sputum, shortness of breath, rapid breathing, hypoxia (insufficient oxygen in the blood), tachycardia (rapid heart rate), malaise and weakness. Headache, vomiting and a stiff neck may also occur but less frequently.



Symptoms may be difficult to detect in infants. Symptoms in infants may include: fever, difficulty waking, irritability, vomiting, feeding poorly, and a stiff neck.

Who gets invasive pneumococcal disease?

IPD is most common in children under two years old, adults 65 years and older and persons with medical conditions that increase the risk of IPD.

Children under five years old in child care facilities and those of First Nations origin are at increased risk for IPD and should be immunized according to the Schedules.

The majority of cases of IPD are reported in the winter months; however, pneumococcal disease occurs year round.

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

The period of communicability is unknown.

What are the complications of pneumococcal disease?

Serious complications may include the following: empyema (collection of pus between the outer lining of the lung and the chest wall), pulmonary abscess (collection of pus in the lung), endocarditis, acute mastoiditis. Deafness is the most common complication of meningitis.

The case fatality rate for bacteremic pneumococcal pneumonia differs between countries and ranges from 5% to 20%.

What is the treatment for pneumococcal disease?

Penicillin has been the mainstay of treatment for IPD for many years. Although antibiotic resistance is becoming a concern, IPD can be treated with a number of effective antibiotics.

For additional information on pneumococcal disease speak with your health care practitioner, contact your local public health unit, or contact:

ServiceOntario, INFOline: 1-877-234-4343 toll free in Ontario (TTY: 1-800-387-5559)

Telehealth Ontario: 1-866-797-0000 (TTY: 1-866-797-0007)

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