

Pneumococcal Infection

Pneumococcal infections are caused by the bacterium *Streptococcus pneumoniae*, also known as pneumococcus (plural 'pneumococci'). Pneumococci are commonly found in the upper respiratory tract of healthy people throughout the world. Infections usually involve the lungs, middle ear, sinuses, bloodstream, or the meninges, which are the lining of the brain and spinal cord (causing meningitis). There are many different types (serotypes) of pneumococci.

Although anyone can get pneumococcal disease, it tends to occur in the elderly or in people with serious underlying medical conditions. Children under two, children in group child care, and Aborigines and Torres Strait Islanders are also at higher risk.

Pneumococcal pneumonia is a serious infection of the lungs which can be fatal, especially in the elderly or infants.

Symptoms of pneumococcal pneumonia include:

- > fever
- > chills and shaking
- > chest pain when breathing in or out
- > shortness of breath
- > cough
- > blood-stained or 'rusty' sputum
- > drowsiness or confusion are common symptoms in the elderly.

People with pneumococcal meningitis often have:

- > high fever
- > headache
- > stiff neck
- > nausea and vomiting
- > discomfort when looking at bright light.

The classic symptoms may be difficult to detect in infants and the child may only appear to be inactive, irritable, feeding poorly and may be vomiting.

Pneumococcal infection is diagnosed by microscopic examination and growth of the bacteria from blood, sputum or other specimens. PCR is sometimes used.

Infection is spread by airborne droplets from the nose and throat, or by direct contact with mucous membranes. It may be spread indirectly by contact with hands, tissues and other articles soiled by nose and throat discharges. Pneumococcal infections are more common during the winter and may be triggered by viral infections.

Incubation period

(time between becoming infected and developing symptoms)

This is uncertain, but may be as short as 1 – 3 days.

Infectious period

(time during which an infected person can infect others)

Effective antibiotic therapy makes people non-infectious within 24 to 48 hours. There is no need to give antibiotics to contacts who are not ill. Pneumococci are commonly found in the upper respiratory tract of healthy people throughout the world. Outbreaks of pneumococcal pneumonia are rare. When an outbreak does occur, it is usually in adults living in crowded, substandard conditions.

Treatment

Effective antibiotic therapy is available, although there has been development of increasing resistance to commonly used antibiotics.

Pneumococcal Infection (cont.)

Control of spread

- > Exclusion from work or school is not necessary. The person can return when they feel well. It is not necessary to give antibiotics to contacts in school or child care centres if they are not sick.
- > Vaccines against *Streptococcus pneumoniae* are available. They act against the commonest serotypes causing infection. So far it has not been possible to create a vaccine effective against all of the known serotypes, so vaccination can not be guaranteed to give complete protection.
- > There are two types of vaccine currently available:
 - the pneumococcal conjugated vaccine, which protects against seven serotypes of pneumococci (7vPCV) and is recommended for children at two, four and six months of age
 - the pneumococcal polysaccharide vaccine which protects against 23 serotypes (23vPPV) and is recommended for indigenous persons and medically at risk children and adults.
- > Free pneumococcal vaccine is available and recommended for the following groups:
 - all babies at two, four and six months (7vPCV)
 - all children at 12 months (7vPCV) and four to five years (23vPPV) with medical conditions that put them at risk
 - indigenous people aged 15-49 years who have medical conditions putting them at risk (23vPPV)
 - indigenous people aged 50 years and over (23vPPV)
 - all adults aged 65 years and over (23vPPV).
- > Pneumococcal vaccination is also recommended for individuals:
 - who do not have a spleen
 - who are tobacco smokers

Control of spread cont.

- whose immune system is compromised
- with chronic illnesses such as heart, kidney or lung disease, diabetes, alcoholism and some blood disorders.

People in these categories should consult their doctor about vaccination.



Invasive pneumococcal infection is a notifiable disease

- > PCR
- > Serotype
- > Immunisation

Useful website

- > **The Australian Immunisation Handbook**
<http://www.immunise.health.gov.au/>