

Infection with pneumococcal bacteria causes a range of diseases including meningitis, pneumonia and middle ear infection. Infections are more common in winter and spring. Small children, and the elderly are most at risk. Infection is treated with antibiotics. Immunisation can prevent infection.

Pneumococcal Disease

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What is pneumococcal disease?

Pneumococcal disease is caused by infection with the bacteria *Streptococcus pneumoniae*. Infection can cause a variety of diseases including: pneumonia (infection of the lungs), otitis media (infection of the middle ear) and meningitis (infection of the membranes around the brain and spinal cord).

What are the symptoms?

Symptoms depend on the site of infection and the age of the person.

- Pneumonia can cause shortness of breath, fever, lack of energy, loss of appetite, headache, chest pain and cough.
- Otitis media can cause crying, tugging at the ear, fever, irritability, poor hearing, and sometimes diarrhoea and vomiting.
- Meningitis can cause fever, headache, stiff neck, nausea, vomiting, and drowsiness.

How is it spread?

The bacteria often live harmlessly in the throat of healthy people. Occasionally these bacteria will cause an infection.

Who is at risk?

People most at risk of infection include:

- children under two years of age
- elderly adults
- Aboriginal and Torres Strait Islander people
- people with lung disease, heart disease, cancer, kidney disease, HIV infection, or malnutrition
- people who have had their spleen removed or does not work properly
- people who smoke.

Pneumococcal infections are more common in winter and early spring. These are also the times when outbreaks in childcare centres, nursing homes, and other institutions are more common.

How is it prevented?

Pneumococcal vaccination is the most effective way to prevent infection. Pneumococcal vaccines are provided free for the following groups.

Children

Pneumococcal vaccine is recommended and available free for all children at 6 weeks, 4 and 12 months of age as part of the routine child immunisation schedule.

Children with certain medical conditions (listed below) associated with an increased risk of invasive pneumococcal infection will receive an extra dose at 6 months (i.e. at 6 weeks, 4, 6 and 12 months).

At risk medical conditions associated with pneumococcal infection are:

- born with certain immune deficiencies
- receiving certain drugs or radiation treatment
- people who have no spleen or whose spleen does not work properly
- HIV infection

- chronic renal (kidney) failure
- Down's Syndrome
- heart disease causing cyanosis or heart failure
- premature infants with chronic lung disease
- infants born at less than 28 weeks gestation
- cystic fibrosis
- insulin-dependent diabetes mellitus
- cerebrospinal fluid leaks
- intracranial shunts or cochlear implants.

For children with the above medical conditions a dose of the adult vaccine is recommended (although not free) at 5 years of age. Please discuss with your local doctor.

Adults

Pneumococcal vaccine is recommended and available free for:

- people aged 65 years and older
- Aboriginal and Torres Strait Islander people aged 50 and over. It is also available for those aged 15-49 years who have one or more of the following medical risk factors:
 - heart, kidney or lung disease
 - asthma or diabetes
 - are immuno-compromised
 - are heavy drinkers or smoke

In some people at highest risk of severe disease, continuous antibiotic treatment may also be recommended.

If a person's first vaccination was given at the age of 65 years or older, re-vaccination is recommended for people with medical conditions that predispose them to pneumococcal infection and should be given a minimum of five years later.

Vaccine is also recommended for people aged 15-64 years who have or are:

- immune-compromised
- had their spleen removed or whose spleen does not work properly
- chronic illnesses (for example: heart, kidney, lung, diabetes, or alcohol related illnesses)
- cerebrospinal fluid leaks
- tobacco smokers

For these people re-vaccination is recommended and some people may require up to two further doses after initial vaccination. Please see the [Australian Immunisation Handbook](#) for further information. No more than three lifetime adult doses of 23vPPV are recommended.

How is it diagnosed?

Your doctor can diagnose pneumococcal disease by the symptoms, an examination, and by doing some tests. Test may include a chest x-ray, and taking samples to look for the bacteria in the infected part of your body (e.g., blood or cerebrospinal fluid).

How is it treated?

Treatment includes antibiotics, medicine to control the fever and pain, and fluids to prevent dehydration.

What is the public health response?

Laboratories must confidentially notify cases of invasive pneumococcal disease (where the bacteria is located in the blood or CSF or other sterile site) to the local Public Health Unit.

Public Health Unit staff will talk to the treating doctor and patient or their family to identify risk factors that the patient may have, and to enquire about vaccination history. Close contacts of cases are not usually at increased risk of infection and don't require follow up.

Further information

For further information please call your local public health unit on **100 066 055**.