

# Pneumococcal disease

## Fact sheet

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.

### 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 pain in the ear, 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 for the 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 whose spleen 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.

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## How is it prevented?

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

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### Children

Pneumococcal vaccine (13 valent pneumococcal conjugant vaccine 13vPCV) is recommended and available free for all children at 2, 4 and 12 months of age as part of the routine child immunisation schedule (children can receive their 1st dose as early as 6 weeks).

Children with certain medical conditions (listed below) associated with an increased risk of invasive pneumococcal infection will receive an extra dose of 13vPCV at 6 months (i.e. at 2, 4, 6 and 12 months).

At risk medical conditions (please refer to the [at risk conditions for pneumococcal disease](https://immunisationhandbook.health.gov.au/resources/tables/list-risk-conditions-for-pneumococcal-disease)<sup>1</sup>) associated with pneumococcal infection are:

- born with certain immune deficiencies
- previous episode of pneumococcal infection
- 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
- severe asthma
- 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 (23-valent pneumococcal polysaccharide vaccine 23vPPV) is recommended at 4 years of age and a second dose at least 5 years later. Please discuss with your local doctor.

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<sup>1</sup> <https://immunisationhandbook.health.gov.au/resources/tables/list-risk-conditions-for-pneumococcal-disease>

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## Adults

Pneumococcal vaccine is free and should be given to:

- All non-Indigenous adults aged 70 years and older (a single dose of 13vPCV)
- Aboriginal and Torres Strait Islander people aged 50 and over should receive a single dose of 13vPCV, and 2 doses of 23vPPV (the 1st dose of 23vPPV should be given 12 months after 13vPCV and the 2nd dose at least 5 years later).
- Anyone aged 12 months and over with one of the following at risk medical conditions (please refer to the [at risk conditions for pneumococcal disease](#)<sup>2</sup>):
  - previous episode of invasive pneumococcal disease
  - immunocompromising conditions, including asplenia
  - CSF leak
  - chronic respiratory disease
  - chronic kidney disease
  - chronic liver disease
  - cardiac disease
  - extremely premature birth
  - trisomy 21
  - diabetes
  - smoking
  - harmful use of alcohol

These people should receive a single dose of 13vPCV at diagnosis, plus 1 dose of 23vPPV 12 months after 13vPCV or at age 4 years, whichever is later, plus a 2nd dose of 23vPPV at least 5 years after the first dose of 23vPPV. Please see the [Australian Immunisation Handbook](#)<sup>3</sup> for further information.

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## 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).

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## How is it treated?

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

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## What is the public health response?

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<sup>2</sup> <https://immunisationhandbook.health.gov.au/resources/tables/list-risk-conditions-for-pneumococcal-disease>

<sup>3</sup> <https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/pneumococcal-disease>

Laboratories must confidentially notify cases of invasive pneumococcal disease (where the bacteria is located in the blood or cerebrospinal fluid 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.

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## Further information

For further information please call your local public health unit on **1300 066 055**.