

Meningococcal disease

Meningococcal disease is caused by bacteria (germs) called meningococci, also known as *Neisseria meningitidis*. These bacteria are divided into 13 'serogroups'. In Australia, serogroup B is the cause of most meningococcal disease.

Although meningococcal disease is uncommon, it is a very serious disease. In Victoria, the highest risk groups are children under five years of age and young adults aged 15 to 24 years. In 2010, 42 per cent of suspected and confirmed cases were aged 20 years or older. The infection can develop quickly and can cause serious illness or death. Early diagnosis and treatment with antibiotics are vital.

A common bacterium that usually causes no harm

Meningococci bacteria live naturally in the back of the nose and throat in about 10 per cent of the population without causing illness. In a small number of people, a particular strain of the bacteria gets through the lining of the throat, enters the bloodstream and causes invasive meningococcal disease before immunity develops. The infection can develop very quickly and causes death in about 10 per cent of cases. If infection is diagnosed early enough and the right antibiotics are given quickly, most people make a complete recovery.

Most cases occur 'out of the blue' and are unrelated to any others. Outbreaks where more than one person is affected are rare. Although everyone is a carrier at some time, carriers are most common among young adults, especially men and smokers.

How it is spread

Meningococcal bacteria are difficult to spread. They are only passed from person to person by regular, close, prolonged household and intimate contact with secretions from the back of the nose and throat. Some research shows that low levels of salivary contact are unlikely to transmit meningococci bacteria. In fact, saliva has been shown to slow down the growth of meningococci.

Meningococci bacteria are only found in humans and cannot live for more than a few seconds outside the body. You cannot catch meningococcal germs from the environment or animals. They cannot be picked up from water supplies, swimming pools, buildings or factories.

Meningococcal disease can occur all year round and in all age groups. However, it is more common during winter and early spring.

Immunisation for meningococcal disease

There are currently no vaccines in Australia that protect against serogroup B disease. There are two different vaccines that protect against serogroup C disease.

- **'Conjugate' vaccines** – these can be given to all people of all ages and provide long-lasting immunity against serogroup C disease. In Victoria, under the National Immunisation Schedule, a free vaccine is available to all children at 12 months of age. Between 2003 and June 2006, this vaccine was offered to all children and adolescents aged from one to 19 years of age.
- **'Polysaccharide' vaccines** – these cover several serogroups not usually seen in Australia. They are useful for people travelling to places such as Africa and for pilgrims to the Hajj in Saudi Arabia, where these serogroups are more common. These vaccines cannot be given to children under the age of two and only provide protection for about three years.

People without a spleen, or who have a partially functioning spleen, and staff who frequently handle meningococcal bacteria in a laboratory, should receive both the conjugate and polysaccharide meningococcal vaccines.

The disease

Meningococci bacteria commonly cause:

Meningitis – infection of the membranes covering the brain and spinal cord
Septicaemia – infection in the bloodstream.

Both these infections are medical emergencies. If you think a person has symptoms that suggest meningitis or septicaemia, contact your doctor **immediately**, call triple zero (000) for an ambulance or go to the nearest hospital emergency department.

Symptoms of meningococcal disease in infants and young children

Symptoms in infants and young children can include:

- Fever
- Refusing to take feeds
- Irritability, fretfulness
- Grunting or moaning
- Extreme tiredness or floppiness
- Dislike of being handled
- Nausea and/or vomiting
- Diarrhoea
- Turning away from light (photophobia)
- Drowsiness
- Convulsions or twitching
- Rash of red–purple pinprick spots or larger bruises.

Symptoms of meningococcal disease in older children and adults

Symptoms in older children and adults can include:

- Fever
- Headache
- Loss of appetite
- Neck stiffness
- Discomfort when looking at bright lights (photophobia)
- Nausea and/or vomiting
- Diarrhoea
- Aching or sore muscles
- Painful or swollen joints
- Difficulty walking
- General malaise
- Moaning, unintelligible speech
- Drowsiness
- Confusion
- Collapse
- Rash of red–purple pinprick spots or larger bruises.

Get further medical help if you are still worried

If somebody close to you has some of these signs and symptoms and seems much sicker than you would expect with a normal infection seek medical help immediately. In the very early stages, meningococcal disease can appear to be like other, less serious illnesses. Your doctor may not immediately recognise this illness.

You are the expert in your family's health. Do not hesitate to seek immediate medical help:

- If you are worried that the person is sicker than you would expect with a normal infection

- If the person seems to be getting worse, suddenly develops a rash or becomes drowsy
- Even if it has only been an hour or two since you last sought help, you can always call NURSE-ON-CALL, call triple zero (000) for an ambulance, or go to an emergency department.

Young adults and children should not be left alone if they suddenly develop a fever – they may become seriously ill very quickly.

Early antibiotic treatment is vital

If meningococcal disease is suspected, an antibiotic (usually penicillin) is given immediately by injection. People with meningococcal disease are almost always admitted to hospital and may require admission to an intensive care unit.

The sooner that a person receives treatment the less damage the disease will cause. However, this is an unpredictable infection, which can progress very rapidly despite the best treatment.

After-effects from meningococcal disease

About a quarter of the people who recover experience after-effects. Some of the more common after-effects include:

- Headaches
- Deafness in one or both ears
- Tinnitus (ringing in the ears)
- Blurring and double vision
- Aches and stiffness in the joints
- Learning difficulties.

Most of these problems get better with time.

Close contacts are offered antibiotics

Most people who have had contact with an affected person, like school and work friends, do not need antibiotics. Very close contacts of an infected person are offered a short course of 'clearance' antibiotics in accordance with the Australian guidelines. These people are usually identified and contacted by the Department of Health or the treating doctor. These antibiotics are effective at getting rid of meningococci bacteria from the throat. They are not a treatment for meningococcal disease, nor do they necessarily prevent anyone from developing the disease.

Close contacts may include:

- Members of the same household
- A girlfriend or boyfriend
- Anyone who has stayed overnight in the same house as the person within the past seven days before they became unwell.
- Children in a childcare facility who have spent at least four hours or more in the same room as the affected person within the seven days before the person became unwell.

Where to get help

- In an emergency, call triple zero (000)
- Your doctor
- Emergency department of your local hospital
- NURSE-ON-CALL Tel. 1300 606 024 – for expert health information and advice (24 hours, 7 days)

Things to remember

- Meningococcal bacteria are only passed from person to person by regular close, prolonged household or intimate contact with secretions from the back of the nose and throat.

- Meningococcal disease is uncommon, but serious.
- It is important to continue to seek assistance from your doctor or the hospital as often as necessary if you are concerned.
- Meningococcal C vaccine provides good protection for only one strain of meningococcal disease.

This page has been produced in consultation with, and approved by:

Department of Health - Communicable Disease Prevention and Control Unit

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