

Meningococcal Infection

The meningococcus (plural meningococci) is a bacterium named *Neisseria meningitidis*. There are 13 different types of meningococcus, but most infections in Australia are caused by types B and C.

Meningococcal disease is a severe infection caused by the meningococcus which may result in meningitis (infection of the outer lining of the brain and spinal cord), septicaemia (infection of the blood), joint infection, eye infection, pneumonia and rash.

Septicaemic meningococcal disease can cause shock and death within hours of the onset of symptoms. In Australia, 5-10% of people with meningococcal disease die, despite rapid treatment.

Meningococcal disease can affect all age groups, but is most common in children under five years of age and in young adults (15 to 24 years). Meningococcal disease can occur throughout the year but is most common in winter and spring. Outbreaks can occur, but are rare.

Disease transmission

The meningococcus is carried, usually harmlessly, in the nose and throat of around 10% of the population, with higher carriage in some specific groups. The bacteria are passed from person to person by close prolonged contact with fine droplets spread by coughing, sneezing and spluttering. However, only a very small number of people in close contact with carriers develop meningococcal disease, when the bacteria 'invades' the body from the throat or nose.

Contact with saliva from the front of the mouth (e.g. from sharing drinks or cigarettes) has not been shown to cause meningococcal disease.

Even though it is hard to catch and uncommon, meningococcal disease is a feared infection that is often featured in the media.

In infants and young children the symptoms of meningococcal disease include:

- > fever
- > refusing to take feeds
- > fretfulness

- > child difficult to wake
- > high-pitched or moaning cry
- > tiny red or purple spots that soon spread and enlarge to look like fresh bruises (colour plate no. 12)
- > pale or blotchy skin
- > abnormal skin colour
- > leg pain
- > cold hands and feet.

In older children and adults the symptoms of meningococcal disease include:

- > headache
- > fever
- > vomiting
- > neck stiffness
- > photophobia (discomfort when looking at bright lights)
- > drowsiness or confusion
- > tiny red or purple spots that soon spread and enlarge to look like fresh bruises (colour plate no.12)
- > collapse
- > joint pains.

Diagnosis is made in a laboratory from a sample of blood or cerebrospinal fluid (fluid around the brain and spinal cord), by examination, growing meningococcal bacteria or PCR testing.

Incubation period

(time between becoming infected and developing symptoms)

Usually 3 – 4 days, but can vary from 1 – 10 days.

Infectious period

(time during which an infected person can infect others)

The person is infectious as long as the meningococcal bacteria are present in the nose and throat, but the bacteria disappear within 24 hours of starting appropriate antibiotic therapy.

Meningococcal Infection (cont.)

Treatment

A person with suspected meningococcal disease must be treated immediately with an injection of antibiotics and transferred urgently to a hospital.

Control of spread

- > Very close contacts, such as family members, of a person who has meningococcal disease will be contacted by the public health authority. They may be advised to receive a short course of an appropriate antibiotic to clear any meningococci they may carry in their nose and throat. These antibiotics do not treat the disease, but can help stop meningococci from spreading to other people. It is important to seek urgent medical attention if any symptoms of meningococcal disease develop.
- > All people in the network of contacts of the person with meningococcal disease should receive information about the disease. It is important for them, or anyone close to them, to seek urgent medical attention if they develop any symptoms of meningococcal disease.
- > A person with meningococcal disease must be given an appropriate antibiotic to eliminate meningococci from the nose and throat in order to prevent spread to others.
- > If the meningococcal disease is caused by a type for which there is a vaccine, the public health authority may recommend vaccination of close household contacts.
- > Two types of vaccine are currently available in Australia:
 1. Meningococcal C conjugate vaccine only protects against the meningococcus type C and provides long-lasting protection.

Control of spread cont.

It is recommended for:

- all children at 12 months of age (free)
 - people who have no spleen, or who have other rare disorders of the immune system.
2. Meningococcal polysaccharide vaccine protects against meningococcus types A, C, W and Y, but only protects for about three years. It is recommended for:
- international travellers to certain areas where there is a lot of meningococcal disease, including pilgrims attending the annual Hajj
 - people over the age of two years who do not have a spleen, or who have other rare disorders of the immune system.
- > Vaccines may sometimes be used during outbreaks of meningococcal disease.
 - > Because vaccines do not protect against all types of meningococci, vaccinated people must still be alert for symptoms of meningococcal disease.
 - > Cigarette smoking, both active and passive, appears to increase the risk of a person developing meningococcal disease. This is yet another reason to stop smoking and for adults not to smoke near young children.



Meningococcal infection is a notifiable disease

- > PCR
- > Immunisation

Useful information

In some cases meningococcal infection will have serious health consequences or can be fatal. If you require support because you have either experienced meningococcal infection or have lost a loved one as a consequence of meningococcal disease please speak with your doctor about a referral to a suitably qualified counsellor. Other useful resources include community networks such as Meningococcal Australia Inc <http://www.meningococcal-australia.org.au> and the Paige Weatherspoon Foundation <http://www.paigewf.com.au>