

Pneumococcal Meningitis - the Facts

This fact sheet provides information about pneumococcal meningitis and answers some frequently asked questions. You will find information about symptoms and emergency action to take on our website:

www.meningitis.org.nz

You can also request any of our information materials by contacting: info@meningitis.org.nz

Words highlighted in blue are explained in a glossary on the bottom of this information.

Key Facts

- Pneumococcal meningitis is a life-threatening infection
- Babies and young children under 18 months of age are most at risk
- Vaccines are available to help protect against pneumococcal meningitis

What is pneumococcal meningitis?

Pneumococcal meningitis is a life-threatening infectious disease that causes inflammation of the membranes that surround the brain and the spinal cord. These membranes are called the meninges – they help protect the brain from injury and infection. Meningitis strikes unexpectedly and the consequences can be devastating.

Pneumococcal meningitis is caused by a bacterium called pneumococcus. There are over 90 strains (or serotypes), but only a minority commonly cause disease. The pneumococcus can also cause other serious infections such as pneumonia, blood poisoning and septic arthritis, and less serious infections such as otitis media, glue ear and sinusitis. Together these are known as pneumococcal disease or pneumococcal infection.

Can pneumococcal meningitis be prevented?

A pneumococcal vaccine is free as part of the National Immunisation Schedule in New Zealand for babies at 6 weeks, 3 months, 5 months and 15 months of age. They are not fully protected until they have had 4 doses of the vaccine.

The pneumococcal vaccinations are also recommended, when appropriate, for adults and children who are at increased risk of pneumococcal disease. For example, those with chronic respiratory disease, chronic heart disease, diabetes mellitus and those with cochlear implants. Anyone who has had pneumococcal disease, including meningitis, should actively seek vaccination.

For more information about all available vaccines to prevent meningitis go to our website www.meningitis.org.nz or email info@meningitis.org.nz

Who gets pneumococcal meningitis and why?

Pneumococcal meningitis can affect any age group, but those at most risk are babies and young children under 18 months of age. The elderly and people with conditions that affect the immune system are also at increased risk. Meningitis may occur following head injury and damage to the meninges, on rare occasions this may be recurrent.



The pneumococcal bacteria can be carried harmlessly in the back of the throat by both adults and children. Virtually all children will become carriers at one time or another. Carriage of bacteria helps us to build natural **immunity** to infection.

Bacteria are passed from person to person by coughing, sneezing and intimate kissing.

Babies and young children are more at risk because their body's defences are not fully developed. If the pneumococcus invades their body, the immune system cannot provide resistance to fight off the infection.

How does pneumococcal meningitis develop?

Occasionally pneumococcal bacteria overcome the body's defences and cause infection. Bacteria are transferred to the meninges via the bloodstream.

When the bacteria infect the meninges, tiny blood vessels in the membranes are damaged. This allows the bacteria to break through and infect the **cerebrospinal fluid (CSF)**. The meninges then become inflamed and pressure around the brain can cause nerve damage. Pressure on the brain can produce the specific symptoms associated with meningitis:

- Severe headache
- Dislike of bright lights (photophobia)
- Neck stiffness
- Nausea and vomiting
- Confusion and drowsiness
- Loss of consciousness
- Convulsions/seizures

It is important to know all the signs and symptoms of meningitis and how to get medical help if you are worried. You can download our symptoms card at www.meningitis.org.nz

How is pneumococcal meningitis treated?

Pneumococcal meningitis needs rapid admission to hospital and urgent treatment with antibiotics. In hospital other treatment, procedures and investigations will be carried out depending on the patient's condition.

One of the main investigations carried out to test if someone has meningitis is a **lumbar puncture**. This allows the doctor to quickly make a diagnosis of meningitis by analysing the CSF that bathes the meninges. This fluid becomes infected when a patient has meningitis. Sometimes treatment with antibiotics is started because the patient's condition is too serious for a lumbar puncture to be performed. In these cases, the lumbar puncture can be done when the patient's condition has improved.

If someone is seriously ill, they will require specialist care and treatment in an intensive care unit. Here the doctors and nurses can closely monitor their condition, respond to emergencies and provide immediate support when it is needed. Appropriate hospital care and treatment are essential if the patient is to make a good recovery.



What happens when there is a case?

Pneumococcal meningitis is reportable to public health but is not considered to be contagious. Therefore, close contact with someone who has the illness poses no increased risk of infection. There is little chance of a second related case occurring.

What happens after pneumococcal meningitis?

Most people who get pneumococcal meningitis will make a good recovery, but around 30% can be left with severe and often permanent after-effects. However, the exact number of people who experience after-effects is not known.

The after-effects of meningitis usually happen because of damage to various areas of the brain, including the nerves responsible for hearing and sight. The serious and disabling after-effects are well recognised and include hearing loss or deafness, loss of vision or blindness, epilepsy, severe brain damage and speech problems.

After-effects are often complicated and can require ongoing support (for life) from a wide range of health professionals and organisations. In many cases, the after-effects will be helped by various therapies, for example, physiotherapy and occupational therapy.

Other people may experience one or more of a wide range of less noticeable but still significant after-effects. These can be temporary or permanent and include memory loss, anxiety, depression, headaches, learning difficulties and behaviour problems. Whatever the after-effect, mild or severe, meningitis can change a person's life forever.

Tragically, some patients will die despite receiving the best possible treatment and care. The death of someone close following meningitis or septicaemia can be traumatic, distressing and painful.

Glossary

Bacteria / bacterium

Single-celled micro-organisms, of which there are many types. Some types can cause disease in humans. One organism is called a bacterium and more than one are called bacteria.

Cerebrospinal Fluid (CSF)

A protective fluid that flows around the brain and spinal cord, helping to maintain healthy cells.

Immunity / immune response

The body's ability to recognise and resist specific infectious diseases. The immune system responds to infection by producing antibodies.

Inflammation

A response of the body tissues to injury or irritation. The response is characterised by redness, swelling, heat and pain.

Lumbar puncture

A procedure to remove CSF from below the base of the spinal cord.



Meninges

Three protective membranes (layers of tissue) that surround the brain. These are called the dura mater, arachnoid mater and pia mater.

National Immunisation Schedule

A planned programme of vaccines which provides protection against a range of infectious diseases. For more information, visit www.health.govt.nz

Vaccine / vaccination

A preparation, usually an injection, given to encourage the body to produce antibodies which help fight infectious disease. The preparation commonly contains a harmless extract prepared from the disease-causing organism.

Resources

Information provided by Meningitis Now December 2019

More information can be found at meningitisnow.org and meningitis.org

