

Meningitis

Disclaimer: This fact sheet is for education purposes only. Please consult with your doctor or other health professional to make sure this information is right for your child.

The brain and spinal cord are surrounded by a lining called the meninges. Infection or inflammation of the meninges is called meningitis. There is normally a fluid between the meninges and the brain or spinal cord called cerebrospinal fluid (CSF). In meningitis, the CSF becomes infected.

Causes of meningitis

Meningitis is due to infection with either viruses or bacteria. Much rarer causes include fungi or malignant (cancer) cells. In general, meningitis due to bacteria (bacterial meningitis) is more severe than meningitis caused by viruses (viral meningitis). Most children with viral meningitis recover completely. Some children with meningitis may have long-term problems, but this depends on the cause of the infection and the age of the child.

Common symptoms are: -

- High fever.
- Headache.
- Vomiting and loss of appetite.
- Lethargy and drowsiness.
- Irritability.

Other symptoms may include: -

- Stiff neck.
- Complaining that the light hurts their eyes (photophobia).
- A rash (either dots or bruises).
- Small baby's soft spot (fontanelle) may bulge.
- Confusion.
- Fits (seizures).
- Change in breathing pattern (fast or slow).
- Difficulty walking or calf pain.

Bacterial meningitis

The most common cause of bacterial meningitis in Australia used to be *Haemophilus influenzae* type b (Hib). Since a vaccine against Hib was introduced in 1993, the number of cases each year has fallen by more than 90 per cent. Now, the two most common bacteria that cause meningitis in children are the meningococcus (see also the [Meningococcal infection](#) fact sheet) and the pneumococcus. All these bacteria live in the nose or throat, and can enter the bloodstream and then infect the meninges on rare occasions.

Meningococcal and Hib meningitis can be passed on (transmitted) to other children although this requires close contact and is uncommon. Antibiotics may be given to family and close friends to prevent it spreading. Pneumococcal meningitis is hardly ever transmitted to others. Vaccines against one strain of the meningococcus (type C) was introduced onto the Australian Immunisation Schedule in 2003 and the pneumococcal vaccine in 2005.

It is important to monitor children who have had bacterial meningitis for long-term problems, especially with hearing. Children who appear normal at hospital discharge after bacterial meningitis rarely have later problems identified and many of the early problems improve over time. It is important to have hearing tests and to attend follow-up with your paediatrician.

Viral meningitis

Viral meningitis is usually much less severe than bacterial meningitis, except in cases where the virus has also caused inflammation of the brain (encephalitis) as well as meningitis. Diseases which can cause viral meningitis or encephalitis include mumps, measles and polio. These can all be prevented with immunisation (see the immunisation tables of the [Immunisation](#) fact sheet). Since measles and mumps became rare as a result of immunisation, enteroviruses are now the most common viruses causing meningitis. Enteroviruses can be in respiratory secretions or faeces and enter the mouth via contaminated hands, food or drink. Hand washing can reduce the spread of these viruses.

Lumbar puncture

The fluid surrounding the spinal cord, known as CSF can be sampled to see if it is infected by using a needle which is put into the back. This is called a lumbar puncture (see [Lumbar puncture](#) fact sheet). The needle is inserted between two bones in the spine (the vertebrae) and into the CSF. The needle does not go into the spinal cord. The CSF from the back is just like the CSF around the brain and therefore gives you the same information when tested.

Prevention

There are some causes of meningitis, such as the bacteria Hib, meningococcus of the “C” type and most types of pneumococcus, as well as the viruses mumps, measles and polio, which can be prevented by immunisation. Please talk to your GP or local health service for information (see [Immunisation](#) fact sheet).

Treatment

If you are worried your child may have meningitis, you must take your child to your local doctor or hospital immediately.

Bacterial meningitis can be treated with antibiotics while viral meningitis may require very little treatment. The way a child is affected by the illness is different for each child.

Remember

- Most children with meningitis recover completely.
- If your child has had bacterial meningitis, follow-up with your doctor is important.
- Make sure your child is up-to-date with their immunisations. Check with your GP.



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