

# Fact Sheet

## Meningitis



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.

### Lumbar puncture

The 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.

### Causes of meningitis

Most 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). Almost all children with viral meningitis recover completely. Some children with bacterial meningitis may have long-term problems, but this depends on the bacterium involved and the age of the child. The way a child is affected by the illness is different for each child.

### Symptoms

Children with meningitis usually have a high fever, headache, loss of appetite and drowsiness or irritability. They may complain that the light hurts their eyes. They may have a stiff neck. Small babies may have a bulging fontanelle (soft spot). Children with meningitis may become increasingly confused, drowsy and may

develop fits (convulsions) or go into coma (unconscious). A purple rash (either dots or bruises) can occur, especially with one type of meningitis, (meningococcal). Rashes also occur with some viruses (enteroviruses), although most children with meningitis have no rash. If you are worried your child may have meningitis, you must take your child to your local doctor or hospital immediately.

### 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 which cause meningitis in children are the meningococcus (see also the Meningococcal infection fact sheet) and the pneumococcus. All these bacteria live in the nose, and can enter the bloodstream and then infect the meninges on rare occasions.

Meningococcal and Hib meningitis can be 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. Usually, any major problem is obvious by the time the child leaves hospital but even major problems improve over time. It is important to have hearing tests and follow-up to check your child for minor problems.

### Viral meningitis

Viral meningitis is usually much less severe than bacterial meningitis, but some cases can be severe causing encephalitis or brain inflammation as well as meningitis. Diseases which can

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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). With high immunisation rates, now the most common viruses causing meningitis are the enteroviruses. They are related to polioviruses, but virtually never cause paralysis. The viruses get into the mouth from infected faeces through contaminated hands, food or drink. Hand washing should prevent spread of these viruses. Children with viral meningitis have the same symptoms as those with bacterial meningitis, particularly fever, headache, neck stiffness and not liking the light, but are usually not so sick.

### Prevention

There are some causes of meningitis, such as Hib, mumps, measles and polio, which can be prevented by immunisation. Recently, new vaccines have become available that prevent most cases of pneumococcal meningitis and one type (type C) of meningococcal meningitis.

### Treatment

Bacterial meningitis can be treated with antibiotics, and most children recover. Viral meningitis usually gets better on its own. Almost all healthy children or healthy adults with viral meningitis make a complete recovery without long-term problems unless they also have encephalitis.

### Remember

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

**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.**

*This document was reviewed on Thursday, 16 May 2002.*

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