

### What is bacterial meningitis?

Meningitis is a medical term that refers to an inflammation of the membranes that cover the brain and spinal cord (meninges).

Meningitis can be caused by a number of viruses and bacteria. Two closely related terms are meningoencephalitis, which refers to an inflammation of the brain and the meninges, and encephalomyelitis, which refers to an inflammation of the brain and spinal cord.

### How is bacterial meningitis spread?

The bacteria are spread through the exchange of respiratory and throat secretions (i.e., saliva or mucus).

### What are the signs and symptoms of bacterial meningitis?

Meningitis infection may show up in a person by a sudden onset of fever, headache, and stiff neck. It will often have other symptoms, such as

- Nausea
- Vomiting
- Increased sensitivity to light (photophobia), and
- Altered mental status (confusion).

### How long after infection do symptoms appear?

The symptoms of bacterial meningitis can appear quickly or over several days. Typically, they develop within 3-7 days after exposure.

### Who is most at risk?

Babies younger than one month old are at a higher risk for severe infections, like meningitis, than older children. Other factors that increase the risk of bacterial meningitis include:

- Community setting (large crowds spread disease more quickly)
- Certain medical conditions (weakened immune system)
- Travel to countries where meningococcal disease is high.

### What type of health problems are caused by bacterial meningitis?

Later symptoms of bacterial meningitis can be very severe causing seizures, coma and bloodstream infection. Meningitis can be fatal. In non-fatal cases, permanent disabilities can include hearing loss and brain damage. For this reason, anyone who thinks they may have meningitis should see a doctor as soon as possible.

### How is bacterial meningitis diagnosed?

If meningitis is suspected, samples of blood or cerebrospinal fluid (near the spinal cord) are collected and sent to the laboratory for testing. If bacteria are present, they can often be grown (cultured). Growing the bacteria in the laboratory is important for confirming the presence of bacteria, identifying the specific type of bacteria that is causing the infection, and deciding which antibiotic will work best.

## How is bacterial meningitis treated?

Bacterial meningitis can be treated effectively with antibiotics. It is important that treatment be started as soon as possible.

Appropriate antibiotic treatment of the most common types of bacterial meningitis should reduce the risk of dying from meningitis to below 15%, although the risk remains higher among young infants and the elderly.

## How can bacterial meningitis be prevented?

The most effective way to protect you and your family against certain types of bacterial meningitis is to get vaccinated. There are vaccines for three types of bacteria that can cause meningitis:

- *Neisseria meningitidis* (meningococcus)
- *Streptococcus pneumoniae* (pneumococcus), and
- *Haemophilus influenzae* type b (Hib).

Antibiotics may be recommended for close contacts of people with meningococcal meningitis. Antibiotics may also be recommended for the entire family if a family member develops severe Hib infection and there's a high-risk person in the house. This is to decrease the risk of spreading disease to that person, since they are at increased risk for severe disease. Your doctor or local health department will tell you if there's a high-risk person in your house and whether antibiotics are needed.

## Where can I get more information?

- Your personal healthcare provider
- Utah Department of Health, Bureau of Epidemiology, 801-538-6191
- [Centers for Disease Control and Prevention](#)

