



# Bacterial Meningitis

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## Organism, Causative Agent, or Etiologic Agent

Bacterial meningitis is caused by different types of bacteria. [\*Streptococcus pneumoniae\*](#), [\*Streptococcus agalactiae\*](#), [\*Neisseria meningitidis\*](#), [\*Haemophilus influenzae\*](#), [\*Escherichia coli\*](#), and [\*Listeria monocytogenes\*](#) are examples of bacteria that can cause bacterial meningitis.

## Transmission

Some forms of bacterial meningitis are contagious. The bacteria can mainly be spread from person to person through the exchange of respiratory and throat secretions. This can occur through coughing, kissing, and sneezing. Fortunately, none of the bacteria that cause meningitis are as contagious as things like the common cold or the flu. The bacteria are not spread by casual contact or by simply breathing the air where a person with meningitis has been.

## Symptoms

Common symptoms of bacterial meningitis are high fever, headache, and stiff neck in anyone over the age of 2 years. These symptoms can develop over several hours, or they may take 1 to 2 days. Other symptoms may include nausea, vomiting, discomfort looking into bright lights, confusion, and sleepiness. In newborns and small infants, the classic symptoms of fever, headache, and neck stiffness may be absent or difficult to detect. Infants with meningitis may appear slow or inactive, have vomiting, be irritable, or be feeding poorly. As the disease progresses, patients of any age may have seizures.

Bacterial meningitis can be quite severe and may result in brain damage, hearing loss, limb amputation or learning disabilities.

The following groups of people are at high risk for bacterial meningitis:

- children between the ages of one month and two years old,
- people who abuse alcohol,
- people with chronic nose and ear infections,
- people who have sustained a head injury,
- people who get pneumococcal pneumonia or widespread blood infection
- people who have a weakened immune system,
- people who have had their spleen removed, or have had brain or spinal surgery,
- people who are on corticosteroids because of kidney failure
- people with sickle cell disease,
- people who live in close quarters with others including military recruits and college students

*Neisseria meningitidis* and [\*Haemophilus influenzae Type b\*](#) can spread to other people who have had close or prolonged contact with a patient with meningitis caused by [\*Neisseria meningitidis\*](#) (also called [meningococcal meningitis](#)) or *Haemophilus influenzae Type b*. People in the same household or daycare center or anyone with direct contact with a patient's oral secretions (such as a boyfriend or girlfriend) would be considered at increased risk of getting the infection.

## Prevention

There are [vaccines](#) available that offer protection against some of the bacteria that can cause bacterial meningitis. The pneumococcal conjugate vaccine, pneumococcal polysaccharide vaccine, meningococcal conjugate vaccine, meningococcal polysaccharide vaccine, and *Haemophilus influenzae Type b* vaccine can assist in preventing infection from certain bacteria that can cause bacterial meningitis.

Maintaining healthy habits, like getting plenty of rest and not coming into close contact with people who are sick can also help prevent infection. Using good health practices such as covering your mouth and nose when coughing or sneezing and washing your hands frequently with soap and water can also help stop the spread of the bacteria. If you are pregnant, you can reduce your risk of meningitis caused by *Listeria* bacteria (listeriosis) by cooking meats thoroughly and avoiding cheeses made from unpasteurized milk.

## School Exclusion Criteria

Children with bacterial meningitis should be kept out of school or childcare until they are fever free for 24 hours without the use of fever suppressing medications. Rules for exclusion of sick children from school and childcare are outlined in the Texas Administrative Code, specifically [Rule 97.7](#) for schools and [Rule 746.3603](#) for childcare.

## Texas Trends

The condition "bacterial meningitis" was last reportable in Texas in 2012. Meningitis caused by a bacterium is still reportable if

the organism or condition is still reportable (e.g., meningitis caused by *Neisseria meningitidis*, Group A Streptococcus, Listeria, etc.).

The number of bacterial meningitis cases for Texas ranged from 271 reported cases in 2006 to 317 reported cases in 2012. In 2012, of the 317 reported cases of bacterial meningitis, 21 (7%) were caused by *Neisseria meningitidis*, 17 (5%) were caused by *Haemophilus influenzae*, 98 (31%) were caused by *Streptococcus pneumoniae*, and 49 (15%) Group B streptococcus (*Streptococcus agalactiae*). The remaining 132 (42%) were caused by other types of bacteria.



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