

# Meningococcal Disease

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## What is meningococcal disease?

Meningococcal disease occurs with infections due to the bacterium, *Neisseria meningitidis*. There are two major types of meningococcal disease: Meningococcal meningitis and meningococemia. Meningococcal meningitis is an infection of the tissue (called the “meninges”) that surrounds the brain and spinal cord. Meningococemia is an infection of the blood and may also involve other parts of the body.

## What are *Neisseria meningitidis*?

*Neisseria meningitidis* are bacteria that may be found normally in people’s throats and noses. About 5 to 15% of people carry these bacteria and do not get sick from them. These people may be called “carriers.” Carriers only have bacteria for a short time. Usually, the bacteria go away and these people may have increased resistance to infection in the future. In rare cases, the bacteria may get into the blood and go to the tissue surrounding the spinal cord and brain, causing severe illness.

## How are the bacteria spread?

The bacteria are spread from person-to-person through saliva (spit). You must be in close contact with an infected person’s saliva in order for the bacteria to spread. Close contact includes activities such as kissing, sharing water bottles, sharing eating/drinking utensils, or sharing cigarettes with someone who is infected; or being within 3-6 feet of someone who is infected and is coughing or sneezing.

## How is meningococcal disease diagnosed?

Persons showing signs and symptoms of illness are diagnosed by growing the bacteria from their spinal fluid (meningitis) or blood (meningococemia) in the laboratory. It may take up to 72 hours to have test results. Sometimes an earlier diagnosis can be made by looking at a person’s spinal fluid under a microscope. Often a preliminary diagnosis is made on the basis of signs and symptoms before laboratory results are available.

## What are the signs and symptoms of illness?

### **Meningococcal meningitis:**

Signs and symptoms of meningitis include sudden onset of high fever, stiff neck, headache, nausea, vomiting, and/or mental confusion. Changes in behavior such as confusion, sleepiness, and being hard to wake up are important symptoms of this illness. A rash may be present, often involving the hands and feet. In babies, the only signs of this illness may be acting more tired than usual, acting more irritable than usual, and eating less than usual. Babies with meningitis will usually have a fever, but this is not a reliable sign of illness. Anyone who has these symptoms should be seen by a health care provider right away.

### **Meningococemia:**

Signs and symptoms of meningococemia include a sudden onset of fever, chills, and feeling unusually weak and tired. A rash may be present, often on the hands and feet. Anyone who has these symptoms should be seen by a health care provider right away.



## How are these illnesses treated?

Antibiotics are used to treat people with both meningococcal meningitis and meningococemia. People who have had close contact with the sick person any time during the two weeks before she/he became ill may also need to take antibiotics. Preventive treatment of all close contacts should be started as soon as possible but ideally within 24 hours of identifying the case.

## Why do close contacts of a sick person need to be treated?

Close contacts of a person who has meningococcal disease are treated with antibiotics because the disease-causing bacteria may be spread from the infected person to other people through contact with the saliva (spit) of the infected person. The antibiotics will kill the bacteria and prevent illness.

## Is there a vaccine to protect me from getting sick?

Yes, quadrivalent meningococcal polysaccharide and meningococcal conjugate vaccines protect against 4 serotypes (subgroups), A, C, W, and Y, of meningococcal disease. Meningococcal serogroup B vaccines protect against serogroup B meningococcal disease.

- Quadrivalent meningococcal conjugate vaccine (Menactra and Menveo) is recommended for children 11-12 years of age and for some younger children with certain health conditions like asplenia (including sickle cell disease), or prior to travel to certain parts of the world where meningococcal disease is common. Students 16-18 years of age should receive a booster dose or their first dose if they have not yet been vaccinated. College freshmen, military recruits and other newly enrolled college students living in dormitories who are not yet vaccinated are also recommended to receive meningococcal conjugate vaccine.
- Meningococcal serogroup B vaccine (Bexsero and Trumenba) is recommended for people with certain relatively rare high-risk health conditions age 10 or older (examples: persons with a damaged spleen or whose spleen has been removed, those with persistent complement component deficiency, those traveling to countries where meningococcal disease is very common, microbiologists working with *N. meningitidis*, and people who may have been exposed during an outbreak), but may also be used in other adolescents and young adults aged 16-23 years based on clinical judgment.
- Quadrivalent meningococcal polysaccharide vaccine (Menomune) also protects against 4 types (A, C, W, Y) of the 13 serogroups (subgroups) of *N. meningitidis* that cause serious disease. It is recommended for people with certain high-risk conditions 56 years of age and older.

If you have questions about whether or not you or your child should receive any of these vaccines, talk to your healthcare provider.

Massachusetts law requires newly enrolled full-time students attending colleges and schools with grades 9-12, who will be living in a dormitory or other congregate housing, licensed or approved by the school or college, to receive quadrivalent meningococcal vaccine or sign a waiver declining vaccination. This law does not apply to meningococcal B vaccine. More information about this



requirement may be found in the MDPH document entitled *“Information about Meningococcal Disease and Vaccination and Waiver for Students at Residential Schools and Colleges.”*

## What should I do if I have had contact with a person who has meningococcal disease?

If you have had close contact with a person who has been diagnosed with meningococcal disease you should call your health care provider and get an antibiotic. If you have had contact with an ill person, but have not had close contact, you should be aware of the symptoms of illness and contact your health care provider right away if you have any of these symptoms.

## Are there times when I would not have to take antibiotics after close contact with a sick person with meningitis?

Yes. Meningitis can be caused by many different types of germs, including other bacteria and viruses. Only certain types of meningitis require treatment of the infected person’s close contacts. If you have questions about meningitis or your exposure to a sick person, contact your health care provider.

## Where can I get more information?

- Your healthcare provider
- The Massachusetts Department of Public Health, Division of Epidemiology and Immunization at (617) 983-6800 or toll free at (888) 658-2850 or on the MDPH website at <http://www.mass.gov/dph/>
- Your local health department (listed in the phone book under government)

