

# MENINGOCOCCAL DISEASE



## ABOUT THIS DISEASE

Meningococcal disease is caused by the bacterium *Neisseria meningitidis*. There are at least 13 types of *Neisseria meningitidis*, called “serogroups.” Serogroups A, B, C, W, and Y cause most meningococcal disease worldwide. Three of these serogroups (B, C, and Y) cause most of the illness seen in the United States.

The two most common types of meningococcal infections are meningitis (infection of the membranes covering the brain and spinal cord) and septicemia (bloodstream infection). Both of these are very serious and can be deadly in a matter of hours.

Even with antibiotic treatment, 10 to 15% of people with meningococcal disease will die. As many as 20% of survivors will have long-term disabilities, such as loss of limb(s), deafness, nervous system problems, or brain damage.

Infants less than one year old and adolescents 16 through 23 years old have higher rates of disease than other age groups. However, cases occur in all age groups, including the elderly. Others at risk for meningococcal disease include:

- Persons with certain medical conditions that affect the immune system
- Persons taking eculizumab (Soliris®)
- Microbiologists routinely exposed to the bacteria in the laboratory
- Those identified as being at increased risk because of an outbreak of meningococcal disease
- Travelers to a country where meningococcal disease is epidemic or highly endemic
- First-year college students who live in residence halls
- Military recruits

Household or close contacts of case patients are at the highest risk for developing meningococcal disease.

For more information about risk factors for meningococcal disease, visit:

<https://www.cdc.gov/meningococcal/about/risk-factors.html>

## SIGNS AND SYMPTOMS

### **Meningococcal meningitis:**

The most common symptoms include:

- Fever
- Headache
- Stiff neck

Additional symptoms include:

- Nausea
- Vomiting

- Photophobia (eyes being more sensitive to light)
- Confusion (altered mental status)

In newborns and babies:

- Inactivity
- Irritability
- Vomiting
- Feeding poorly

### **Meningococcal septicemia:**

Symptoms may include:

- Fever
- Fatigue
- Vomiting
- Cold hands and feet
- Cold chills
- Severe aches or pain in the muscles, joints, chest or abdomen
- Rapid breathing
- Diarrhea
- Dark, purple rash (in later stages)

The incubation period of meningococcal disease is 3 to 4 days (range: 2 to 10 days).

### **TRANSMISSION**

People spread meningococcal bacteria to others by exchanging respiratory and throat secretions (saliva or spit), especially if living in the same household. Generally, it takes close (for example, coughing or kissing) or lengthy contact to spread these bacteria.

Fortunately, meningococcal bacteria are not as contagious as the germs that cause the common cold or the flu. People do not catch these bacteria through casual contact or by breathing air where someone with meningococcal disease has been.

Close contacts of someone with meningococcal disease should receive antibiotics ideally within 24 hours after the case is identified to help prevent them from getting the disease. People who are not a close contact of a patient with meningococcal disease do not need to take antibiotics.

### **DIAGNOSIS**

Meningococcal disease can be difficult to diagnose because the signs and symptoms are often similar to those of other illnesses. If a healthcare provider suspects meningococcal disease, they will collect samples of blood or cerebrospinal fluid (fluid near the spinal cord) and test to see if there is an infection.

## TREATMENT

Meningococcal disease is treated with a number of effective antibiotics. It is important that treatment is started as soon as possible, to help reduce the risk of dying.

Depending on how serious the infection is, people with meningococcal disease may need other treatments, including:

- Breathing support
- Medications to treat low blood pressure
- Wound care for parts of the body with damaged skin

## IMMUNITY

Meningococcal disease is caused by different types of meningococcal bacteria. Being vaccinated against *Neisseria meningitidis* will provide protection against infection with the types of meningococcal bacteria found in the specific vaccine, but will not protect against other meningococcal serotypes (see Prevention below).

Although rare, people can get meningococcal disease more than once. A previous infection will not offer lifelong protection from future infections.

## RISK IN HAWAII

Summary of Reported Cases of Notifiable Diseases:

<http://health.hawaii.gov/docd/resources/reports/summary-of-reported-cases-of-notifiable-diseases/>

## PREVENTION

There are three types of meningococcal vaccines available in the United States:

- Protect against serogroups A, C, W, and Y:
  - Meningococcal conjugate vaccine (MenACWY)
  - Meningococcal polysaccharide vaccine (MPSV4)
- Protect against serogroup B:
  - Serogroup B meningococcal vaccine (MenB)

The Centers for Disease Control and Prevention recommends vaccination with MenACWY for all preteens and teens at 11 to 12 years old, with a booster dose at age 16 years.

Teens and young adults (aged 16 through 23 years) may also be vaccinated with a MenB vaccine.

Other children and adults, especially those at increased risk for meningococcal disease may be recommended to receive meningococcal vaccines. Some persons may need additional doses for adequate protection. Discuss your specific situation with your or your child's health care professional.

MPSV4 is recommended only for certain people older than 55 years.

Regardless of immunization status, close contacts of a person with meningococcal disease should receive antibiotics ideally within 24 hours after the case is identified to help prevent them from getting the disease.

#### **ADDITIONAL RESOURCES**

- CDC Website: <https://www.cdc.gov/meningococcal/>
  
- Vaccine Information Statement:
  - Meningococcal ACWY Vaccines: <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening.pdf>
  - Serogroup B Meningococcal Vaccines: <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening-serogroup.pdf>

#### **INFORMATION FOR CLINICIANS**

- CDC Website: <https://www.cdc.gov/meningococcal/clinical-info.html>,  
<https://www.cdc.gov/meningococcal/vaccine-info.html>