

PUBLIC HEALTH FACT SHEET

Meningococcal Invasive Disease

(*Neisseria meningitidis*)

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What is meningococcal invasive disease?

Meningococcal invasive disease is an infection of the tissue which covers the brain (meninges) caused by the bacterium *Neisseria meningitidis*. The disease is more common among children and young adults, and more common in late winter and early spring, though it can occur at any time of year. *Neisseria meningitidis* is also capable of causing a very similar illness, called meningococcal sepsis, an infection of the bloodstream by the *Neisseria meningitidis* bacterium.

Who gets meningococcal invasive disease?

Anyone can get meningococcal invasive disease, but it is more frequent in children younger than 5 years of age, and the elderly. Some individuals with specific blood clotting disorders and individuals who have lost their spleen are also more likely to become ill with meningococcal disease.

How is meningococcal invasive disease spread?

Neisseria meningitidis bacteria can be found in the nose and throat of up to 25% of healthy individuals at any given time. Normally, the bacteria do not cause any problems for these individuals, nor any infection. These bacteria can be passed from person to person through kissing, sharing of food and eating utensils, or having other direct contact with respiratory secretions. In a very small number of individuals, the bacteria become invasive, and cause an infection of the meninges or the blood. The reason why the bacteria become invasive in these individuals is not completely clear. Mutation to a more aggressive strain, and a higher susceptibility of some individuals to meningococcal infection are theories that have been suggested but not proven.

What are the symptoms of meningococcal invasive disease?

The most prominent symptom of meningococcal invasive disease is a stiff neck. However, this is usually preceded by other symptoms including fever, nausea, vomiting, headache and irritability. A rash may also be present, but it usually occurs late in the illness, by which time the patient should already have sought emergency medical care. The illness may progress rapidly, and, in most cases, the patient requires hospitalization.

How soon do symptoms of meningococcal invasive disease occur?

Symptoms usually begin within 3 to 4 days after exposure to the meningococcal bacteria, but onset may vary from as early as 2 to as late as 10 days.

How can I tell if my child has meningococcal invasive disease?

Early meningococcal invasive disease may indeed look similar to a "bad cold." A parent should watch for changes that suggest the illness is becoming more severe than what the child has typically experienced in the past. A fever that can't be controlled, abnormal and unusual changes in the child's behavior, symptoms the child has never had previously - all should prompt an immediate call to the child's physician or a visit to a hospital emergency department. A very ill child should be watched closely, as changes can happen quickly. Parents should never hesitate to call their child's physician if they are uncomfortable about their child's condition.

How is meningococcal invasive disease diagnosed?

Meningococcal infection can be diagnosed in several ways, including culture of the CSF (cerebrospinal fluid, the fluid which surrounds the brain) and culture of the blood.

Can meningococcal invasive disease be treated?

Yes, meningococcal invasive disease can be successfully treated with antibiotics, and most patients do recover completely. The earlier treatment is begun, the more successful it is, thus it is important that the diagnosis be made as early as possible.

How long is an infected person infectious to others?

An infected person is no longer infectious to others after 24 hours of appropriate antibiotic therapy.

Can meningococcal invasive disease be prevented?

At the present time, meningococcal invasive disease cannot be completely prevented. However, there is preventive therapy which is recommended to specific individuals under specific circumstances. Individuals who have had close personal contact with someone who has become ill with meningococcal invasive disease should take a preventive antibiotic. This antibiotic is necessary only for those individuals who have had recent close personal contact, such as sharing living space, kissing, sharing food and eating utensils or having other contact with oral secretions. It is generally not necessary for individuals who have shared only office space or classroom space. The physician caring for the patient who is hospitalized with meningococcal invasive disease, or a representative from the health department, determines who should be contacted regarding preventive antibiotic therapy and ensures that these individuals are notified.

Is there a vaccine to prevent meningococcal invasive disease?

A vaccine against meningococcal invasive disease has been developed; however it does not provide coverage against all of the strains of *Neisseria meningitidis* that circulate in the United States. On October 20, 1999 the recommendations for use of the meningococcal vaccine in the United States were modified to include college freshmen residing in dormitories and other college students wishing to reduce their risk of meningococcal disease. Physicians and other health care providers are encouraged to give information to students and their parents about meningococcal disease and the benefits of vaccination and to provide the vaccine to those who desire it. The vaccine is also recommended for travel to a small number of foreign countries where meningococcal disease is much more common than in the United States. If you have plans for international travel and you would like to know if any vaccines are recommended for the countries you are visiting, you should contact your personal physician.

Where can I get more information about meningitis?

- Your doctor, nurse or clinic
- The Centers for Disease Control and Prevention (CDC) website at: <http://www.cdc.gov/>
- The Burlington County Department of Health at (609) 265-5548.
- The New Jersey Department of Health and Senior Services (NJDHSS) at (609) 588-7465 or on the NJDHSS Website at <http://www.state.nj.us/health>.