

Meningococcal Disease Fact Sheet

1. **What is meningococcal disease?** Meningococcal disease (MD) is any infection caused by the bacteria *Neisseria meningitidis*, also known as the meningococcus bacteria. Common types of MD include meningitis (infection of the meninges which is a system of membranes surrounding the brain and spinal cord), septicemia (blood infection), pneumonia (lung infection) and septic arthritis (joint infection).
2. **What are the signs and symptoms of MD?** Most people who come into contact with meningococcus bacteria do not get sick. When illness does occur, the onset can be very rapid and the resulting disease very severe. The symptoms vary by site of infection. High fever, headache, and stiff neck are common symptoms of meningitis 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 of meningitis might include nausea, vomiting, sensitivity to light, confusion, and sleepiness. In newborns and small infants, the classic symptoms of fever, headache, and neck stiffness might be absent or difficult to detect; the infant may only appear slow or inactive, or be irritable, have vomiting, or be feeding poorly. As the disease progresses, patients of any age might have seizures. The most common signs and symptoms of meningococcal sepsis (bloodstream infection) are high fever, joint pain, a purplish rash, an elevated white blood cell count, and organ failure. Even with prompt treatment, the severe forms of MD are fatal in 9% to 12% of cases, and many survivors have long-term health problems, including mental impairment and hearing loss.
3. **How is MD diagnosed?** Diagnosis is usually made by growing *N. meningitidis* bacteria from a normally sterile site in the body such as from a sample of blood or spinal fluid.
4. **Can MD be treated?** Yes. It can be treated with a number of antibiotics; however, treatment must be started as early as possible.
5. **Is MD contagious?** Yes. *N. meningitidis* bacteria are normally spread through the exchange of respiratory and throat secretions (i.e., coughing, kissing, or the sharing of eating utensils). They are not spread by casual contact or by simply breathing the air where a person with MD has been. The bacteria can spread to people who have had close or prolonged contact with a patient with disease caused by *N. meningitidis*. People in the same household or day-care center, or anyone with direct contact with a patient's saliva (such as a boyfriend or girlfriend) would be considered at increased risk of acquiring the infection. These bacteria do not live long outside the human body so you won't get sick from touching door knobs, telephones, or other surfaces that have been contaminated with the bacteria.
6. **Can MD be spread by coughing and sneezing?** Yes. Covering our mouths when we cough or sneeze is the best way to prevent transmission of *N. meningitidis* bacteria as well as many other disease agents that we carry in our noses and throats. Since *N. meningitidis* bacteria do not live long once they leave the human body, only those who are directly coughed or sneezed upon are at increased risk of infection. These people would be considered close contacts, therefore antibiotics would be recommended. However, since coughing and

sneezing are not usually a part of meningococcal disease, this is an uncommon way to be exposed.

7. **Can MD be prevented?** MD can be prevented in close contacts of cases by taking preventive (prophylactic) antibiotics. When a case of MD is reported to the Department of Health or a local health department, an investigation is conducted to identify the close contacts and to recommend antibiotic prophylaxis as appropriate. In order to be effective, antibiotic prophylaxis should be administered as soon as possible after exposure. Prophylaxis more than ten days after exposure is not effective and is not recommended.
8. **What do I do if I have been exposed?** People who qualify as close contacts of a person with *N. meningitidis* disease should receive antibiotics to prevent them from getting the disease. It is not useful to swab culture your nose after a close contact exposure to a person ill with MD. Several strains of meningococcal bacteria are found routinely in healthy people's noses and throats without causing illness and the delay in obtaining the culture puts exposed persons at unnecessary risk. If illness is going to occur as a result of close contact with an ill person, it usually happens within 2 or 3 days and rarely as long as 10 days later. Fortunately, the vast majority of exposed persons do not develop any illness. Once a person has been treated for the disease with appropriate antibiotics, he or she can no longer infect anyone else. You also cannot catch the disease from a close contact of a case who received antibiotics to prevent him or her from becoming ill.
9. **Are there vaccines against MD?** Two vaccines licensed in the United States protect against four subgroups of *N. meningitidis* bacteria (Serogroups A, C, Y and W135), but are not effective in children under 18 months of age. There is no vaccine available against the fifth major subgroup of the disease, Serogroup B.
 - a. The meningococcal polysaccharide vaccine provides only short-term (several years) immunity. Its use has been largely phased out in favor of the newer, meningococcal conjugate vaccine (MCV), but it is an acceptable alternative in situations where MCV is not available.
 - b. The meningococcal conjugate vaccine, licensed in 2005, provides longer-term (probably life-long) immunity. It is recommended for all college freshmen living in dormitories, for all adolescents 11 to 18 years of age, and for 2 to 10 year olds at increased risk of MD. Children at increased risk include travelers to or residents of countries with high rates of MD and countries that experience meningococcal epidemics, children without a spleen and children with terminal complement immune deficiencies. Health care providers may also vaccinate children aged 2 to 10 years of age who are infected with human immunodeficiency virus (HIV).
 - c. The above vaccines are sometimes used to control disease outbreaks of some types of meningococcal meningitis in the United States.
 - d. Overseas travelers should check to see if MCV is required for their destination. Travelers should receive the vaccine at least a week before departure, if possible.

10. What are the recommendations for meningococcal vaccination in college students? -

The meningococcal conjugate vaccine is recommended for all college freshmen living in dormitories. Other college students who wish to reduce their risk of MD might choose to receive either of the licensed meningococcal vaccines. Pennsylvania Act 83 requires colleges and universities to:

- a. Prohibit a student from residing in a dormitory unless the student has received a vaccination against MD or signed a waiver for “religious or other reasons,”
- b. Provide detailed information on the risks associated with MD and the availability and effectiveness of any vaccine to any student (or his/her parent or guardian if the student is a minor) and
- c. Maintain records of vaccination or waivers on all students residing in dormitories.

11. For more information about MD:

<http://www.cdc.gov/meningitis/index.html>

This fact sheet provides general information. Please contact your physician for specific clinical information.