

Meningococcal Disease— Information for Teens and College Students



Meningococcal disease is most common in very young infants, teens, and young adults, and those older than 65 years. College students, especially freshmen who live in dorms and military recruits, are at an increased risk for meningococcal disease caused by serogroups C and Y compared with others in this age group. Though there have been a number of meningococcal serogroup B outbreaks on college campuses in the past decade, college students are not at increased risk for meningococcal serogroup B disease.

It's important to know how to protect yourself because meningococcal disease can be deadly. Read on for more information from the American Academy of Pediatrics about this serious illness, safe and effective vaccines, and how to stay healthy.

What is meningococcal disease?

Meningococcal disease is caused by a bacterium called *Neisseria meningitidis* (often called *meningococcus*). There are different serogroups (types) of meningococcus. The serogroups that most commonly cause disease worldwide are A, B, C, W, and Y. Serogroups B, C, and Y most commonly cause disease in the United States.

Many people carry these bacteria in their nose or throat but never get sick. However, in a few individuals, presence of these bacteria in the nose or throat precedes 2 serious illnesses: *meningococemia* and *meningitis*. Meningococcal disease can affect the bloodstream (meningococemia) or brain and spinal cord (meningitis), and sometimes it affects both the brain and bloodstream. It can be life-threatening unless diagnosed and treated early.

Each year in the United States, about 1,000 people get meningococcal disease. While it can strike anybody, the greatest risk is in individuals between 15 and 21 years of age. Also, students entering college and planning to live in dorms are at a higher risk than other people of the same age for meningococcal serogroup C and Y infections. It's easy for infections to spread in crowded dorms or enclosed areas where students often meet to smoke and drink alcohol.

What are the symptoms of meningococcal disease?

The symptoms of meningococcal disease are often mistaken for other less serious illnesses such as the flu. Common symptoms include

- Fever (usually above 101.4°F [38.6°C])
- A flat, pink to red to purple rash is noticeable on any part of the skin. However, the rash stands out the most on the lower legs and feet, and the forearms and hands.
- Nausea
- Vomiting
- Generalized muscle aches
- Sudden, severe headache

- Confusion
- Sensitivity to light
- Stiff neck along with headache and sensitivity to light (can signal the meningitis form of illness and should never be ignored)

It's important to get medical treatment right away. Meningococemia or meningitis can get worse very quickly, even within a few hours from the start of symptoms. If untreated, the infection can be fatal (up to 20% of teens die) or cause kidney failure, hearing loss, limb amputation, or lifelong problems with the nervous system.

How is meningococcal disease treated?

Meningococcal disease is treated with antibiotics. When given shortly after the start of symptoms, these antibiotics may prevent the disease from getting worse.

Because this infection spreads to others in close contact, all those who have been in contact with someone diagnosed as having meningococcal infection should contact their doctor. In many cases, an individual who has been in contact with someone with meningococcal infection may be given an antibiotic to help prevent meningococcal disease. Ideally, this antibiotic should be given within 24 hours of exposure to the person with meningococcal infection.

Are there vaccines to help prevent meningococcal disease?

There are 3 types of meningococcal vaccines available in the United States that may protect against certain serotypes. Two types of meningococcal vaccines are given to teens and young adults.

1. Meningococcal conjugate vaccines (MCV4)—Licensed for people 55 years and younger. May protect against serogroups A, C, W, and Y or C and Y.
2. Serogroup B meningococcal vaccines (MenB)—Licensed for people 10 years or older who are at increased risk for serogroup B meningococcal infections. May protect against serogroup B.
3. Meningococcal polysaccharide vaccine (MPSV4)—Licensed for people of all ages, but it is not recommended for children younger than 2 years. May protect against serogroups A, C, W, and Y.

Your doctor will recommend the type of vaccine for you on the basis of your age and health, and if you are at increased risk of infection.

These vaccines are safe. However, there may be mild side effects, such as redness and swelling at the injection site or a slight fever. These symptoms are usually mild and resolve in a few days. Teens and young adults who receive any vaccine have an increased risk for fainting. Teens who receive any meningococcal vaccine should sit for about 15 minutes after they receive the vaccine.

Which vaccines are recommended for teens and young adults?

Meningococcal conjugate vaccines (MCV4)

- Preteens should be routinely immunized at 11 through 12 years of age and given a booster at 16 years of age.
- Teens who receive their first dose at age 13 through 15 years should receive a booster at 16 through 18 years or up to 5 years after their first dose.
- Teens who receive their first dose of MCV4 at or after 16 years of age do not need a booster.
- Unvaccinated or incompletely vaccinated first-year college students living in residence halls should receive 1 dose of MCV4.
- Teens who are unvaccinated or incompletely vaccinated may need to receive an MCV4 if they travel to areas with high rates of meningococcal disease, such as the northern areas of sub-Saharan Africa, or are participants in the Hajj.
- Anyone 2 months or older with certain medical conditions, such as a damaged or removed spleen or persistent complement component deficiency (an immune system disorder).

Serogroup B meningococcal vaccines (MenB)

- Teens and young adults 16 through 23 years of age, to provide short-term protection against diverse strains of serogroup B meningococcus. The preferred age for MenB vaccination is 16 through 18 years of age.
- Anyone 10 years or older with certain medical conditions, such as a damaged or removed spleen or persistent complement component deficiency (an immune system disorder).

Note: Make sure to let your doctor know if you are not feeling well, are pregnant or breastfeeding, or have any severe, life-threatening allergies before receiving any vaccine.

Take care of yourself

It's important you see your pediatrician for your annual checkup. If you are 11 to 12 years of age, you will benefit by receiving MCV4 and the human papillomavirus (HPV) vaccine. You may need a booster of other vaccines, such as the vaccines that prevent pertussis, tetanus, and diphtheria. At the same visit, your pediatrician can give you advice about keeping healthy. Your pediatrician will also let you know about scheduling any booster dose that may be appropriate.

If you are a student about to start college, here are some health tips.

- Reduce your risk of getting meningitis by reducing your exposure to smoking, drinking alcohol, excessive stress, and upper respiratory tract infections. Even if you don't smoke, being in a smoking environment (secondhand smoke) can still increase your risk of getting meningococcal disease.
- Strengthen your immune system by living a healthy lifestyle that includes enough sleep, exercise, and a balanced diet.
- Avoid sharing eating utensils or drinking glasses, cover your mouth when you cough or sneeze, and wash your hands often.
- Get familiar with your college's student health services. Find out who to call or where to go if you get sick.
- Remember that your pediatrician is available to answer any questions you may have about your health.

The persons whose photographs are depicted in this publication are professional models. They have no relation to the issues discussed. Any characters they are portraying are fictional.

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

From your doctor

