

Meningococcus can be devastating — claiming a child's life in hours. Although infants less than 1 year of age are at the highest risk of getting this disease, adolescents and teens are most likely to die from it. The meningococcal vaccine is recommended for all adolescents and teens.

Q. What is meningococcus?

A. Meningococcus is a bacterium. Meningococcal bacteria live on the lining of the nose and throat and are spread from one person to another by close personal contact. Occasionally, the bacterium enters the bloodstream and causes severe disease.

Five different types of meningococcal bacteria, classified on the basis of a complex sugar that coats the bacteria (called polysaccharide), cause virtually all meningococcal disease in the world. These five different types of meningococcal bacteria are called types A, B, C, Y and W-135.

Q. What are the symptoms of meningococcal infection?

A. Meningococcus infects the bloodstream, the lining of the brain and the lining of the spinal cord (causing meningitis). Symptoms of bloodstream infection include fever, chills, rash, low blood pressure and dark purple spots on the arms and legs. Symptoms of meningitis include fever, headache, confusion and stiff neck.

Q. Is meningococcus dangerous?



A. Yes. Every year in the United States approximately 2,500 people are infected with meningococcus and 300 die from the disease. Also, about 400 people every year who survive infection have permanent disabilities, such as seizures, loss of limbs, kidney disease, deafness and mental retardation.

The highest incidence of meningococcal disease occurs in infants less than 1 year of age. In children between 2 and 10 years of age, the incidence of meningococcal infections is very low, but starting in adolescence the incidence of disease rises. Although adolescents are less likely to be infected than infants, they are more likely to die when infected.

Meningococcal bacteria are particularly dangerous because they rapidly make large quantities of a poison called endotoxin. Endotoxin damages small blood vessels and causes low blood pressure and shock. For this reason, meningococcal bacteria can kill people soon after they enter the bloodstream. Children can be perfectly healthy one minute and dead four to six hours later; the disease can be so rapid and overwhelming that even appropriate, early medical care may be too late.



Because outbreaks occur in colleges, schools, childcare centers and other areas where people have close contact, meningococcal infections often cause panic in the community.

Q. Is there a vaccine to prevent meningococcus?

A. Yes. The vaccine protects against four of the five different types of meningococcus (A, C, Y and W-135), but not meningococcus type B, which accounts for two-thirds of all meningococcal disease in infants and one-third of cases in adolescents.

Unfortunately, researchers have not yet figured out how to make an effective vaccine using the type B meningococcal polysaccharide coating.

Q. How is the meningococcal vaccine made?

A. The meningococcal vaccine is made using the complex sugar (called polysaccharide) that resides on the surface of the bacteria. Polysaccharides are stripped from the surface of four of the five different types of meningococcal bacteria that cause disease (types A, C, Y and W-135) and each is linked (conjugated) to a harmless protein. The four conjugated polysaccharides are combined into a single shot and protect against four different types of meningococcal bacteria.

[more ▶](#)

Meningococcus: What you should know

Q. Is the meningococcal vaccine safe?

A. Yes. The meningococcal vaccine can cause pain or redness at the site of injection, but because it is not made from whole bacteria, it cannot possibly cause bloodstream infections or meningitis. The technology used to make the meningococcal vaccine is the same as that used to make the pneumococcal and *Haemophilus influenzae* type B (Hib) vaccines.

Since the conjugate meningococcal vaccine first became available in 2005, there have been a few reports of Guillain-Barré syndrome (GBS) in recent vaccine recipients. GBS is a rare cause of weakness that starts in the legs and travels upwards. If muscles necessary for breathing are involved, the disease can be quite dangerous. However, recent studies showed that teenagers who got the vaccine were not more likely to get GBS than those who didn't get the vaccine.

Q. Does the meningococcal vaccine work?

A. Yes. The meningococcal vaccine protects adolescents from most of the meningococcal disease caused by types A, C, Y and W-135 (which account for about two-thirds of all meningococcal disease in adolescents). Because the meningococcal vaccine does not include type B, which accounts for about one-third of cases in adolescents, it does not prevent all cases of meningococcal disease.

Q. Who should get the meningococcal vaccine?

A. The meningococcal vaccine is recommended in two doses. The first dose is recommended for all 11 – 13-year-olds, and a booster dose is recommended at 16 – 18 years of age. If the first dose is given between 13 and 15 years old, a booster dose should be given between 16 and 18 years of age. Any 16 – 18-year-olds who have not previously received the vaccine should also get a single dose.

Q. Should college freshmen get the meningococcal vaccine?

A. Yes, all college freshmen, especially students living in dormitories, should receive the meningococcal vaccine if they have not had it or received only one dose more than five years ago. College freshmen living in dormitories are five times more likely to get meningococcal disease than people of the same age who do not attend college.

Q. If someone in my child's school gets meningococcal infection, what should I do?

A. Children in close contact with someone with meningococcal infection should receive an antibiotic to prevent the disease. Close contact with someone with meningococcal disease is defined as 1) living in the same house, 2) attending the same childcare center or nursery school, or 3) kissing or sharing utensils or toothbrushes. Antibiotics used to prevent meningococcal infection include rifampin, ceftriaxone, azithromycin and ciprofloxacin.

Q. Does the meningococcal vaccine prevent all cases of meningitis?

A. The meningococcal vaccine will prevent many, but not all, cases of meningococcal meningitis. Other bacteria, such as pneumococcus and *Haemophilus influenzae* type B (Hib), also cause meningitis. Fortunately, vaccines to prevent pneumococcus and Hib are routinely given to all children before 2 years of age.

Some viruses also cause meningitis, but meningitis caused by most viruses is usually not as severe as meningitis caused by bacteria.

