

Frequently Asked Questions and Answers About Meningococcal Meningitis

■ What is meningococcal meningitis?

Meningitis is an inflammation of the membranes that cover the brain and spinal cord. It is sometimes referred to as spinal meningitis. Meningococcal meningitis is a rare but potentially fatal bacterial infection. The disease is expressed as either **meningococcal meningitis**, an inflammation of the membranes surrounding the brain and spinal cord, or **meningococemia**, the presence of bacteria in the blood.

■ What causes meningococcal meningitis?

Meningococcal meningitis is caused by the bacterium *Neisseria meningitidis*, a leading cause of meningitis and septicemia (or blood poisoning) in teenagers and young adults in the United States. Meningitis and septicemia are the most common manifestations of the disease, although they have been expressed as septic arthritis, pneumonia, brain inflammation and other syndromes.

■ How many people contract meningococcal meningitis each year? How many people die as a result?

Meningococcal meningitis strikes about 3,000 Americans each year and is responsible for approximately 300 deaths annually. It is estimated that 100 to 125 cases of meningococcal disease occur annually on college campuses and 5 to 15 students die as a result.

■ How is meningococcal meningitis spread?

Many people in a population can be a carrier of meningococcal bacteria (up to 11 percent) and usually nothing happens to a person other than acquiring natural antibodies. Meningococcal bacteria are transmitted through the air via droplets of respiratory secretions and by direct contact with an infected person. Direct contact, for these purposes, is defined as oral contact with shared items, such as cigarettes or drinking glasses, or through intimate contact such as kissing.

■ What are the symptoms?

The early symptoms usually associated with meningococcal meningitis include high fever, severe headache, stiff neck, rash, nausea, vomiting, sensitivity to bright light, sleepiness or trouble waking up, lethargy, lack of appetite and symptoms may resemble the flu. Because the disease progresses rapidly, often in as little as 12 hours, prompt diagnosis and treatment are important to assuring recovery. Bacterial meningitis can have serious after-effects, such as brain damage, hearing loss, limb amputation, or learning disabilities.

■ Who is at risk?

Recent evidence indicates that college students residing on campus in dormitories or residence halls appear to be at higher risk for meningococcal meningitis than college students overall. Further research recently released by the Centers for Disease Control and Prevention (CDC) shows freshmen living in dormitories have a sixfold increased risk for meningococcal meningitis than college students overall.

Although anyone can be a carrier of the bacteria that causes meningococcal meningitis, data indicate certain social behaviors, such as exposure to passive and active smoking, bar patronage and excessive alcohol consumption, may put college students at increased risk for the disease. Patients with respiratory infections, compromised immunity, those in close contact to a known case and travelers to endemic areas of the world are also at increased risk. Cases and outbreaks usually occur in the late winter and early spring when school is in session.

■ How often do outbreaks occur in the population at large? On college campuses?

From 1980 to 1993, there were 21 outbreaks, three of which occurred in colleges. From 1994 to 1996, there have been 26 outbreaks, four of which occurred in colleges. Between 1986 and 1993, an outbreak was defined as five cases of the same serotype in 100,000 people with at least three occurring within three months. From 1994 to present, 10 cases of the same serotype in 100,000 people with at least three occurring within three months constitute an outbreak.

■ Is one type of serogroup of meningococcal meningitis more common in college students?

Recent evidence shows the epidemiology of meningococcal meningitis is changing, with a majority of cases (65 percent) in the college-age group caused by either serotype C, Y or W-135, which are all vaccine preventable. Rates of mortality and complications are higher for these serogroups compared to serogroup B.

■ Does the CDC recommend vaccination for college students?

On October 20, 1999, the CDC's Advisory Committee on Immunization Practices (ACIP) voted to recommend that college students, particularly freshmen living in dormitories, be educated about meningococcal meningitis and the potential benefits of vaccination. If the vaccine was given more than 5 years before the student will reside on campus, a 2nd dose is recommended. Other undergraduate students who do not reside in dormitories, should also consider vaccination.

There are two kinds of vaccines available in the USA. Meningococcal polysaccharide vaccine (Menomune) has been approved by the Food & Drug Administration (FDA) and available since 1981. Meningococcal conjugate vaccines, Menactra and Menveo, were licensed in 2005 and 2010, respectively. Each vaccine can prevent 2 or the 3 most commonly occurring strains in the USA. Meningococcal vaccines cannot prevent all types of the disease, but they do protect many people who might become sick if they did not get the vaccine.

■ Why should college students consider vaccination with the meningococcal vaccine?

Data from the CDC demonstrate that sub-populations of college students are at increased risk for meningococcal meningitis. Pre-exposure vaccination enhances immunity to four strains of meningococcus that cause 65 to 70 percent of invasive disease and therefore reduces a student's risk for disease. Development of immunity after vaccination requires 7 to 10 days.

■ Who should consider being vaccinated?

- Freshmen college students, particularly those living in dormitories or residence halls, who elect to decrease their risk for meningococcal meningitis
- Undergraduate students 25 years of age or younger who request vaccination in order to decrease their risk for disease and are not pregnant
- Students with medical conditions that compromise immunity (e.g., HIV, absent spleen, antibody deficiency)

■ How effective is the vaccine?

The meningococcal vaccine has been shown to provide protection against the most common strains of the disease, including serogroups A, C, Y and W-135. The vaccine is 85 to 100 percent effective in serogroups A and C in older children and adults.

- Is the vaccine safe? Are there adverse side effects to the vaccine?

The vaccine is very safe and adverse reactions are mild and infrequent, consisting primarily of redness and pain at the site of injection lasting up to two days.

- What is the duration of protection?

The duration of the meningococcal vaccine's efficacy is approximately three to five years. As with any vaccine, vaccination against meningitis may not protect 100 percent of all susceptible individuals. A 2nd dose should be given after 5 years if the student will continue to live in a residence hall.

- Does Ramapo College of NJ Health Services offer the meningococcal meningitis vaccine on campus?

Ramapo College of NJ Health Services does not offer the meningococcal vaccine.

- What is the cost of the meningococcal vaccine?

The cost of the meningococcal vaccine varies. Please contact your primary health care provider for cost information.

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