**Meningococcal Disease and Students: Commonly Asked Questions**

**What is meningococcal disease?**

Meningococcal disease is caused by infection with bacteria called *Neisseria meningitidis*. These bacteria can infect the tissue (the “meninges”) surrounding the brain and spinal cord and cause meningitis, or they may infect the blood or other organs of the body. Symptoms of meningococcal disease may appear suddenly. Fever, severe and constant headache, stiff neck or neck pain, nausea and vomiting, and rash can all be signs of meningococcal disease. Changes in behavior such as confusion, sleepiness, and trouble waking up can also be important symptoms. In the US, about 350-550 people get meningococcal disease each year, and 10-15% die despite receiving antibiotic treatment. Of those who survive, about 10-20% may lose limbs, become hard of hearing or deaf, have problems with their nervous system, including long-term neurologic problems, or have seizures or strokes. Less common manifestations of meningococcal disease include pneumonia and arthritis.

**How common is meningococcal disease?**

Meningococcal disease is becoming much less common. Over the past 20 years, the overall incidence of meningococcal disease in the US has declined ten-fold. Twenty years ago in Massachusetts, there were 80-100 cases of meningococcal disease per year. In contrast, for the past decade, the average is approximately 12 cases per year. Declining rates of meningococcal disease may be due in part to the introduction of meningococcal vaccines (initially recommended routinely in 2005 for adolescents aged 11-12 years, unvaccinated college freshmen living in residence halls) as well as other factors such as the decline in cigarette smoking, which may impact susceptibility to this disease.

**How is meningococcal disease spread?**

These bacteria are passed from person to person through saliva (spit). For the bacteria to spread, you must be in close contact with an infected person’s saliva. Close contact includes activities such as kissing, sharing water bottles, sharing eating/drinking utensils, sharing cigarettes, or being within 3-6 feet of someone infected who’s coughing or sneezing.

**Who is most at risk for getting meningococcal disease?**

High-risk groups include anyone with a damaged spleen or whose spleen has been removed, those with persistent complement component deficiency (an inherited immune disorder), HIV infection, those traveling to countries where meningococcal disease is very common, microbiologists who are routinely exposed to the organism and people who may have been exposed to meningococcal disease during an outbreak. People who live in certain settings such as first-year college students living on campus and military recruits are also at greater risk of disease caused by some of the serotypes.

**Which students are most at risk for meningococcal disease?**

In the 1990s, college freshmen living in residence halls were identified as being at increased risk for meningococcal disease. Meningococcal disease and outbreaks in young adults were primarily due to serogroup C. However, following many years of routine vaccination of young people with quadrivalent meningococcal conjugate vaccine (for serogroups A, C, W, and Y), serogroup B is now the primary cause of meningococcal disease and outbreaks in young adults. Among the approximately 9 million students aged 18-21 years enrolled in college, there are an average of 20 cases and 0-4 outbreaks due to serogroup B reported annually. Although the incidence of serogroup B meningococcal disease in college students is low, four-year college students are at increased risk compared to non-college students; risk is highest among first-year students living on campus. The close contact in college residence halls, combined with social mixing activities (such as going to bars, clubs, or parties, participating in Greek life, sharing food or beverages, and other activities involving the exchange of saliva), may put college students at increased risk.

**Is there a vaccine against meningococcal disease?**

Yes, there are 2 different meningococcal vaccines. Quadrivalent meningococcal conjugate vaccine (Menveo and MenQuadfi) protects against 4 serotypes (A, C, W and Y) of meningococcal disease. Meningococcal serogroup B vaccine (Bexsero and Trumenba) protects against serogroup B meningococcal disease, for people age 10 and older. Pentavalent meningococcal vaccine protects against serogroups A, B, C, W, and Y. It may be administered to persons aged ≥10 years when both a quadrivalent meningococcal conjugate vaccine and meningococcal B vaccine are indicated at the same visit.

**Should my child or adolescent receive the meningococcal vaccine?**

Different meningococcal vaccines are recommended for a range of age and risk groups. Quadrivalent meningococcal conjugate vaccine (MenACWY) is recommended routinely for children 11-12 years of age, with a second dose at age 16, and is required for school entry for grades 7 and 11. College freshmen and other newly enrolled college students (under age 21) are also required to have received quadrivalent meningococcal conjugate vaccine regardless of whether they live in congregate housing. More information about exemptions from this requirement may be found in the MDPH document “Information about Meningococcal Disease, Meningococcal Vaccines, Vaccination Requirements and the Waiver for Students at Colleges and Residential Schools.”

Meningococcal B vaccine is recommended for people over age 10 in certain relatively rare high-risk groups. In addition, adolescents and young adults (16 through 23 years of age) who are not at high risk may be vaccinated with a serogroup B meningococcal vaccine, preferably at 16 through 18 years of age, to provide short-term protection for most strains of serogroup B meningococcal disease.

Pentavalent meningococcal vaccine protects against serogroups A, B, C, W, and Y. It may be administered to persons aged ≥10 years when both a quadrivalent meningococcal conjugate vaccine and meningococcal B vaccine are indicated at the same visit. Talk with your doctor about which vaccines your child should receive.

**Shouldn’t meningococcal B vaccine be required?**

CDC’s Advisory Committee on Immunization Practices has reviewed the available data regarding serogroup B meningococcal disease and the vaccines. At the current time, there is no routine recommendation and no statewide requirement for meningococcal B vaccination before going to college (although some colleges might decide to have such a requirement). As noted previously, adolescents and young adults (16 through 23 years of age) may be vaccinated with a serogroup B meningococcal vaccine, preferably at 16 through 18 years of age, to provide short-term protection against most strains of serogroup B meningococcal disease. This would be a decision between a patient or parent and a healthcare provider. These policies may change as new information becomes available.

**How can I protect my child from getting meningococcal disease?**

The best protection against meningococcal disease and many other infectious diseases is thorough and frequent handwashing, respiratory hygiene, and cough etiquette. Individuals should:

1. wash their hands often, especially after using the toilet and before eating or preparing food (hands should be washed with soap and water, or an alcohol-based hand gel or rub may be used if hands are not visibly dirty).
2. cover their nose and mouth with a tissue when coughing or sneezing and discard the tissue in a trash can; or if they don’t have a tissue, cough or sneeze into their upper sleeve.
3. not share food, drinks, or eating utensils with other people, especially if they are ill.
4. contact their healthcare provider immediately if they have symptoms of meningococcal disease.

If your child is exposed to someone with meningococcal disease, antibiotics may be recommended to keep your child from getting sick.

You can obtain more information about meningococcal disease or vaccination from your healthcare provider, your local board of health (listed in the phone book under government), or the MDPH Divisions of Epidemiology and Immunization at (617) 983-6800 or on the MDPH website at <https://www.mass.gov/info-details/school-immunizations>.

For additional information on *Invasive Meningococcal Disease (IMD),* please visit the CDC’s website:

[Meningococcal Disease Surveillance and Trends | Meningococcal | CDC](https://www.cdc.gov/meningococcal/php/surveillance/index.html).