



**VANDERBILT**  
Student Health Center

## **What is meningococcal meningitis?**

Meningococcal disease is a rare but potentially life-threatening bacterial infection that occasionally infects college students and others living in close quarters (such as military recruits). Students in residence halls live in tight quarters and as a result may be exposed to bacteria they have not previously encountered, including *Neisseria meningitidis*, the bacterium that causes meningococcal disease. Data also suggest that certain behaviors such as exposure to passive and active smoking, bar patronage, and excessive alcohol consumption all may increase the risk for contracting the disease.

*Neisseria meningitidis* causes inflammation of the membranes surrounding the brain and spinal cord, and can also cause meningococemia, or presence of the bacteria in the blood. The complications of the disease can be significant, and can include brain damage, hearing loss, loss of limbs, kidney failure and death.

## **What are the symptoms of meningococcal disease or meningitis?**

*Understanding the characteristic signs and symptoms of meningococcal disease is critical and possibly lifesaving.* Common early symptoms may include:

- fever
- severe headache and neck stiffness

It is often accompanied by other symptoms, such as:

- nausea and vomiting
- rash
- photophobia (sensitivity to light)
- lethargy, confusion, or other change in consciousness

Early in the illness, meningococcal disease can appear to be very similar to other much more common illnesses such as influenza and other viral infections. When in doubt, seek medical evaluation and advice. The staff at the Student Health Center and the Emergency Department are trained and experienced in the prompt recognition and treatment of meningitis.

If a flu-like illness takes a rapid turn for the worse and is accompanied by any of the symptoms listed above, a person should seek immediate medical assistance. Students should proceed to the Zerfoss Student Health Center or, if after hours, the Vanderbilt University Medical Center Emergency Department.

## **How does it spread?**

Meningococcal disease is contagious. The *Neisseria meningitidis* bacteria are transmitted through the air via droplets of respiratory secretions and direct contact with infected persons, including being in the direct path of a sneeze or cough, kissing, or oral contact with shared items such as:

- drinking utensils (glass, cup, bottle, can, etc.)
- eating utensils
- cigarettes, cigars, pipes, etc.
- lipstick, lip balms

Meningococcal bacteria are not easily transmitted by “casual” contact, such as in the classroom.

Most people who become infected simply carry the organism harmlessly, without illness, and then can spread it to others. Up to 10% of the population may be found carrying the meningococcal bacteria without illness or symptoms.

## **How common is meningococcal disease and can it be prevented?**

Meningococcal disease affects about 3,000 Americans each year, and is fatal in approximately 10–15 percent of cases. It is estimated that 100 to 125 cases of meningococcal disease occur annually on U.S. college campuses.

Vanderbilt has not had a case of meningococcal disease in several years and has not had a serious outcome from meningococcal disease in over 25 years. Campus health officials at the Zerfoss Student Health Center, as well as colleagues at the VU Medical Center, are well trained in the recognition and prompt treatment of meningococcal disease. We remain vigilant to identify and treat this disease because of the population that we serve.

In compliance with Tennessee law, Vanderbilt requires incoming undergraduates to have the quadrivalent meningococcal vaccine, unless they have a religious or medical waiver. This is the vaccine that covers serotypes A, C, Y, and W and has been a universally recommended vaccination for adolescents and young adults for many years. Serotypes A, C, W, and Y account for approximately 70-80% of the cases of meningococcal disease in young adults. This shot is typically given at age 11-12 and then another booster is given again between age 16 and 18.

## **What about serotype B, the more rare strain of meningococcal disease?**

There are now two vaccines available to protect adolescents and young adults against the serotype B strains of meningococcus. In November 2014, Trumenba was approved. Trumenba requires two shots, given over 6 months. Bexsero was FDA approved in January 2015 and requires two shots over 1-2 months.

In the United States, serotype B meningococcal outbreaks have been rare until recently; over the last few years this serotype has caused some outbreaks (and deaths) on U.S. college campuses. Bexsero was used on U.S. college campuses even before FDA approval (with special permission because of campus outbreaks), so has been studied extensively.

The CDC’s Advisory Committee on Immunization Practices (ACIP) has stated that serotype B meningococcal vaccination should be discussed between healthcare providers and their patients

and “may be offered” to patients between the age of 16 and 18. There was no specific guideline for college students addressed. The ACIP’s change from initially being “not recommended” to “may be offered” means that many insurance companies may cover this vaccine. Each family should check with his/her insurance plan to determine coverage.

### **Are Trumenba and Bexsero covered on the Gallagher student health insurance plan?**

Yes, both are covered and there is no co-pay for these vaccinations for students on the Gallagher plan.

### **What would happen if the Vanderbilt campus sees a subtype B meningococcal disease case, or even an outbreak, and most students are not vaccinated with Trumenba or Bexsero?**

The Zerfoss Student Health Center, the state and local public health authorities, and the Vanderbilt Medical Center have significant experience in handling public health emergencies, including meningococcal disease. There is an infrastructure in place that allows for rapid response to treat infected patients, to notify the campus community, and to dispense preventive antibiotics to those who have been exposed.

In addition, if the clinical situation warranted mass vaccination, Vanderbilt could quickly mobilize its mass vaccination strategies for the entire campus community. Mass vaccination can be done quickly because of the ongoing joint training efforts of Zerfoss Student Health and the Vanderbilt Medical Center---Flulapalooza I in 2011 was a mass vaccination exercise designed to practice for this potential need in our community and has been repeated in each year since then---so Vanderbilt remains prepared for these sorts of emergencies. We have demonstrated that we can mobilize the mass vaccination protocol quickly and immunize 14,000 or more people during a 24-hour period.

### **In addition to the mandated meningococcal vaccine, how can one reduce the risk of contracting meningococcal disease?**

Students should continue to do whatever they can to take good care of themselves. Good nutrition, adequate sleep and regular exercise can improve overall health and reduce the chance of infections, including meningococcal disease.

In addition, students should be aware that the following may also improve their chances of avoiding contact with the bacterium:

- Avoid inhalation of cigarette smoke,
- Avoid excessive alcohol consumption
- Avoid exposure to oral secretions by not sharing things that have touched others' mouths (see list above).
- Protect others by covering your nose and mouth when you cough or sneeze.
- Wash your hands thoroughly and frequently.