VANDERBILT HEALTH

Student Health

What is meningococcal meningitis, and why should I care about it?

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 meningitides, 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 meningococcemia, or presence of the bacteria in the blood. The complications of the disease can be significant, and can include permanent brain damage and other persistent neurological deficits, hearing loss, loss of limbs, kidney failure and death. 1 in 5 survivors of meningococcal meningitis have long term disabilities afterward, and 10-15% of patients with meningococcal meningitis will die.

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 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?

The rate of meningococcal disease had been declining since the early 1990s, but cases since 2021 are on the rise.

Vanderbilt has not had a case of meningococcal disease in >10 years and has not had a serious outcome from meningococcal disease in over 25 years. Campus health officials at the Zerfoss Student Health Center, along with our colleagues at Vanderbilt Health, are well trained in the recognition and prompt treatment of meningococcal disease.

In compliance with Tennessee law and the CDC's recommendations, Vanderbilt requires incoming undergraduates to have the quadrivalent meningococcal vaccine administered on or after their 16th birthday, unless they have a religious or medical waiver approved. This is the vaccine that covers serotypes A, C, W, and Y and has been a universally recommended vaccination for adolescents and young adults for many years. This shot is typically given at age 11-12 and then another booster is given again between age 16 and 18 as part of routine childhood vaccinations. There is a 2 newer vaccine series that covers MenACWY and serogroup B (Penbraya/Penmenvy are brand names for these vaccines).

What about serotype B, the other strain of meningococcal disease?

The B serotype is now the prominent strain of meningococcus that infects the 15-25 yr old age groups. This vaccine is not required but is highly recommended!

There are 4 vaccines available to protect adolescents and young adults against the serotype B strains of meningococcus. Trumenba and Bexsero are both MenB vaccines administered in a series of 2 shots over 6 months. Penbraya and Penmenvy protect against meningitis ABCWY and are also given in a series of 2 shots over 6 months, so also protects against meningitis B.

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, ideally between the age of 16 and 18, but can be given up to age 23, as part of shared decision making. There was no specific guideline for college students

addressed. Most commercial insurances cover meningitis B vaccination between ages 16-23. Each family should check with his/her insurance plan to determine coverage.

Vanderbilt encourages students to receive meningitis B vaccination, but does not require it.

Are Trumenba and Bexsero covered on the UHC student health insurance plan?

Yes, both are covered and there is no co-pay for these vaccinations for students on the UHC plan when the vaccines are administered at the Student Health Center. We do not currently carry Penbraya or Penmenvy (men ABCWY vaccine).

What would happen if the Vanderbilt campus sees a subtype B meningococcal disease case, or even an outbreak, and not all students are vaccinated against meningitis B?

The Student Health Center, the state and local public health authorities, and Vanderbilt Health 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 Student Health and Vanderbilt Health (such as Flulapalooza and employee mass Covid vaccination events).

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.

Links for more information:

Meningococcal: Questions and Answers

Meningococcal Vaccination | Meningococcal | CDC