MENINGOCOCCAL DISEASE ON CAMPUS

Overview of Meningococcal Disease

Meningococcal disease is a rare, yet potentially life-threatening bacterial infection. The disease is most commonly expressed as either meningococcal disease, an inflammation of the membranes surrounding the brain and spinal cord, or meningococcemia, a presence of bacteria in the blood.¹

Each year, meningococcal disease strikes 1,400 to 3,000 Americans, leading to an estimated 150 to 300 deaths.² Approximately 100 to 125 cases of meningococcal disease occur on college campuses each year, and five to 15 students die as a result.¹

Meningococcal disease is caused by Neisseria meningitidis, which has become the leading cause of bacterial meningitis in older children and young adults in the United States.¹ There are five types of bacteria (or serogroups) of meningococcal disease that circulate worldwide: A, B, C, Y, and W-135. Studies show approximately 70 to 80 percent of cases in the college age group are caused by serogroup C, Y, or W-135, which are potentially vaccine-preventable.³

Meningococcal Disease on Campus: College Students at Risk

Young adults and adolescents account for nearly 30 percent of all reported meningococcal cases in the U.S.⁴ Among teens and young adults aged 15 to 24 years (the age group of most college students), fatality rates are up to five times higher (25 percent) when compared with other age groups.⁴,⁵

The disease is especially significant among college students, since studies show first-year students living in residence halls are particularly vulnerable to meningococcal disease.⁶ Young adults may be at increased risk of infection due to certain lifestyle factors, such as:¹,⁷,⁸

- Crowded living conditions (e.g., dormitories/residence halls)
- Irregular sleeping patterns
- Exposure to passive and active smoking
- Bar patronage
- Excessive alcohol consumption
- Move to a new residence, attendance at a new school with students from geographically diverse areas

Those with respiratory infections or compromised immunity are also at an increased risk.⁹,¹⁰ Meningococcal cases and outbreaks usually occur in the late winter and early spring when school is in session.¹¹

Transmission: Spread Person-to-Person

Meningococcal disease is contagious. The bacteria is spread person-to-person through the air by respiratory droplets (e.g., coughing, sneezing). The bacteria also can be transmitted through
direct contact with an infected person, such as oral contact with shared items, like cigarettes or drinking glasses, and through kissing.  

Meningococcal bacteria attach to the mucosal lining of the nose and throat where they can multiply. When the bacteria penetrate the mucosal lining and enter the bloodstream, they move quickly throughout the body and can cause damage to various organs.

Many people in a population can be a carrier of meningococcal bacteria (up to 11 percent) in the nose and back of the throat, and usually nothing happens to a person other than acquiring natural antibodies.

**Meningococcal Disease Symptoms: Mimic the Flu**

Incubation for meningococcal disease is three to four days, with a range of two to 10 days. Symptoms of meningococcal disease often resemble the flu or other minor febrile illness, making it sometimes difficult to diagnose, and may include high fever, severe headache, stiff neck, rash, nausea, vomiting, fatigue, and confusion. Students who notice these symptoms - in themselves, friends, or others - especially if they are unusually sudden or severe, should contact their college health center or local hospital.

However, unlike the flu, meningococcal disease can progress rapidly and, if not treated promptly within hours of initial symptoms, can result in death. In addition, one in five of those who survive will suffer from long-term effects and permanent disability, such as limb amputation, hearing loss, and brain damage.

**Vaccination Against Meningococcal Disease**

Immunization is safe and effective, and is the best means for protection against meningococcal disease.

Meningococcal conjugate vaccine technology is available for use in those aged 11 to 55 years. Other successful conjugate vaccines have been shown to provide longer-lasting protection and herd immunity, which means that by immunizing a large population, even some people who are not immunized will be protected.

This vaccine protects against four of the five serogroups for meningococcal disease (A, C, Y and W-135). These serogroups account for the majority of cases of meningococcal disease on college campuses. While research continues, there is currently no vaccine available for the B serogroup in the United States, though there have been studies of vaccines against the B serogroup in New Zealand, Norway, and Cuba. The most common side effect of the conjugate vaccine is soreness at the site of injection, which lasts one to two days.

**Treating Meningococcal Disease**

Once diagnosed, meningococcal disease is treated with strong use of antibiotics. Antibiotics often are given to close contacts (e.g., roommate, girlfriend/boyfriend) or anyone who has shared personal items (e.g., utensils, glasses) with the infected student. Students on campus are urged
to seek medical care immediately if they experience two or more meningococcal disease symptoms concurrently, or if symptoms are unusually sudden or severe.

**Immunization Recommendations for College Students**

On June 27, 2007, the Advisory Committee on Immunization Practices (ACIP) for the Centers for Disease Control and Prevention (CDC) voted to expand its meningococcal immunization recommendations to include all adolescents 11 through 18 years of age.

The American College Health Association (ACHA) recommends all first-year students living in residence halls receive the meningococcal vaccine. The ACHA recommendations further state that other college students under 25 years of age may choose to receive meningococcal vaccination to reduce their risk for the disease.

These new recommendations, coupled with ample supply of a vaccine that may provide longer duration of protection, will help increase rates of immunization against meningococcal disease and will give college health professionals the guidance needed to help protect college students against meningococcal disease.

**About the American College Health Association**

The American College Health Association (ACHA), founded in 1920, is a national non-profit organization serving and representing the interests of professionals and students in health and higher education. Its mission is to be the principal advocate and leadership organization for college and university health.

The association will provide advocacy, education, communications, products and services, as well as promote research and culturally competent practices, to enhance its members' ability to advance the health of all students and the campus community.

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