FREQUENTLY ASKED QUESTIONS ABOUT MENINGOCOCCAL MENINGITIS

Information for Students and Parents

I. THE DISEASE

- **What is meningococcal meningitis?**

  Meningococcal meningitis is a bacterial infection that causes inflammation of the membranes surrounding the brain and spinal cord[1]. It is caused by the bacterium *Neisseria meningitidis*, also known as meningococcus.

- **What are the symptoms?**

  Symptoms include fever, severe headache, stiff neck, rash, nausea, vomiting, and lethargy. The infection can lead to permanent disabilities, such as hearing loss and brain damage[2]. Despite antibiotic treatment, 10% of people with meningococcal meningitis die each year from the disease[3].

- **What is meningococcemia?**

  Sometimes the meningococcal bacteria can infect the bloodstream. This infection is termed meningococcemia. It can lead to kidney and heart failure, and like meningococcal meningitis, can result in severe disability and death.[4]

- **How is the disease spread?**

  The infection is spread by direct contact with infected individuals (for example, sharing a glass or cigarette, or kissing) or through the air via droplets of respiratory secretions (for example, coughing or sneezing).

- **How common is meningococcal disease?**

  Neisseria meningitidis is the second most common cause of bacterial meningitis in the United States, responsible for 3,000-4,000 cases each year. While meningococcal disease overall remains relatively rare, the number of outbreaks has been on the rise in recent years. Whereas there were only 13 outbreaks during the 12-year period from 1980 to 1991[4,5], at least ***33*** outbreaks hit in just the 5 years between 1992 and 1996[4], according to the Centers for Disease Control and Prevention (CDC).

- **Who is at risk for meningococcal meningitis?**

  In the past, the attack rate of endemic meningococcal disease was highest among children 6 to 36 months of age. Lately, however, the risk appears to be shifting toward older children and adolescents, with a rising number of outbreaks in schools, universities, and other organization-based settings, according to the

American College Health Association (ACHA). In fact, over half of the outbreaks from 1992 to 1996 occurred in schools, colleges, universities, and similar settings[4,5]. Also at increased risk for meningococcal disease are travelers to certain hyperendemic or epidemic countries (such as part of Sub-Saharan Africa), people with certain immune deficiencies, and household or institutional contacts of infected individuals.

- **Why are college students at greater risk for meningococcal disease than the general population?**

  While the reasons are not yet fully understood, studies from previous college outbreaks suggest that college students are more susceptible because they live and work in close proximity to each other in dormitories and classrooms. Behavioral and social aspects of college life appear to be risk factors as well, with smoking, exposure to second-hand smoke, excessive alcohol consumption, and bar patronage all increasing the chance that one will contract meningitis from an infected individual.

II. THE VACCINE

- **Is there any way for college students to protect themselves against the threat of meningococcal disease?**

  Yes. Safe, effective vaccination can provide protection against four out of the five serogroups of the disease (serogroups A, C, Y, and W-135; there is currently no vaccine for serogroup B). These four serogroups cause nearly 85% of meningococcal meningitis cases on college campuses.

- **Why should college students consider preventive vaccination with the meningococcal vaccine?**

  In the past, vaccination usually has been delayed until an outbreak of meningitis occurred and had been controlled temporarily by antibiotics. The problem with this strategy is that because outbreaks, while rare, are clustered in time[1,4], and because onset of symptoms is extremely rapid, for many students post-exposure vaccination may be too late to provide real protection. In addition, immunity after vaccination can take 1-2 weeks to develop[1]. Pre-exposure vaccination also eliminates the fear of not being vaccinated in time.

  The Advisory Committee on Immunization Practices (ACIP) has recently modified its guidelines for use of the polysaccharide meningococcal vaccine to prevent bacterial meningitis. Based on the results of two CDC studies conducted in 1998 which identified the slightly higher risk among freshman dormitory residents, the ACIP now recommends that those who provide medical care to this group give information to students and their parents about meningococcal disease and the benefits of vaccination. Vaccination should be provided or made easily available to those freshmen who wish to reduce their risk of disease. Other undergraduate students wishing to reduce their risk of meningococcal disease can also choose to be vaccinated.

  The American College Health Association (ACHA) supports the new recommendation issued by the ACIP.

- **What are the side effects of the vaccine? How safe is it?**

  The meningococcal vaccine has an excellent safety profile. Side effects are mild and infrequent, consisting primarily of redness and swelling at the site of injection lasting up to two days.

  Meningococcal immunization should be deferred during any acute illness. The vaccine should not be administered to individuals sensitive to thimerosal or any other components of the vaccine. Please contact your primary care physician or campus health center regarding thimerosal free vaccine.

- **How effective is the vaccine and how long does it last?**

  The vaccine has been shown to create protective levels of antibodies against the four most common strains of meningococcus in over 90% of adults studied[6,7]. As with any vaccine, meningococcal vaccination may not protect 100% of susceptible individuals. Protection from the original polysaccharide vaccine (Menomune ™)

lasts for at least 3-5 years. However, a new conjugate vaccine (Menactra ™) appears to offer protection for up to 8 years and possibly longer (it is too new to know for sure). Emory University Student Health Services routinely carries the Menactra ™ vaccine.

- **Can college students do anything else to reduce the risk of contracting meningococcal disease?**

  Maximize your body's own immune response. Eat a balanced diet, and get adequate sleep and exercise. Avoid cigarettes, excessive use of alcohol and, in particular, sharing drinks and cigarettes.

III. INSURANCE INFORMATION

- **Will my insurance company reimburse for this vaccine?**

  Many insurance companies do not currently reimburse the cost of the meningitis vaccine. The reason for this is that the recommendation for meningitis vaccination is a fairly recent one, and many insurance companies are not aware of the increased risk which college students face. To help you work with your insurance company for reimbursement, we have provided this Frequently Asked Questions sheet and the enclosed letter from the College Medical Director. The student will also receive a copy of his/her Informed Consent/Encounter Receipt, at the time of vaccination. You may submit this information as a claim, however, there is no guarantee that you will be reimbursed.

References: 1. Centers for Disease Control and Prevention. Control and prevention of meningococcal disease and control and prevention of serogroup C meningococcal disease: evaluation and management of suspected outbreaks. MMWR. 1997;46(RR-5):1-21. **2.** Scheld WM. Bacterial meningitis and brain abscess. In: Isselbacher KJ, Braunwald E, Wilson JD, Martin JB, Fauci AS, Kasper DL, eds. Harrison's Principles of Internal Medicine. 13th edition. New York, NY: McGraw-Hill Inc.; 1994;2:2296-2309. **3.** Recommendation of the Immunization Practices Advisory Committee (ACIP). Meningococcal Vaccines. MMWR 34: 255-259, 1985. **4.** Data on file, Centers for Disease Control and Prevention, 1997. **5.** Jackson LA, Schuchat A, Reeves MW, Wenger JD. Serogroup C meningococcal outbreaks in the United States: an emerging threat. JAMA. 1995;273(5):383-389. **6.** Hankins, W.A., et al: Clinical and serological evaluation of a meningococcal polysaccharide vaccine groups A, C, Y and W-135. Proc Soc Exper Biol Med 169: 54-57, 1982. **7.** Lepow, M.L., et al: Reactogenicity and immunogenicity of a quadrivalent combined meningococcal polysaccharide vaccine in children. J Infect Dis 154: 1033-1036, 1986.

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