DEPARTMENT OF HEALTH

Meningococcal Disease and Vaccine: What College Students Need to Know

Anyone can get meningococcal disease, but college freshman living in dorms are at increased risk and should get vaccinated.

What is meningococcal disease?

Meningococcal disease is a serious illness caused by a bacterium. It can cause meningitis, which is an infection of the brain and spinal cord, and it can also cause blood infections. The infection can cause death or lifelong disability.

About 375 people get the disease each year, and about 10 to 15 out of 100 people infected with meningococcal disease die. Of those who survive, up to one out of five have permanent disabilities, such as deafness, brain damage, loss of limbs, or seizures.

A person with meningococcal disease may become seriously ill very quickly. Antibiotics can treat meningococcal infections, but often can't be given soon enough to help.

What are the symptoms of meningitis?

Symptoms can include:

- High fever
- Headache
- Very stiff neck
- Confusion
- Nausea
- Sensitivity to light
- Vomiting
- Exhaustion

If a person has a blood disease, a rash may also develop. Early symptoms can easily be mistaken for influenza or other illnesses. Contact your student health service or health care provider immediately if you have symptoms.

How does meningococcal disease spread?

Meningococcal disease is spread by contact with secretions (saliva or spit) from the nose and throat. Kissing, sharing silverware, drinking directly from the same container, sharing a cigarette or lipstick, coughing, and having close social contact (living in the same household) are examples of how this disease spreads.

How can you prevent meningococcal disease?

Vaccination is one of the most effective ways to prevent meningococcal disease. Other ways to prevent infection include washing your hands often and avoiding sharing things like silverware, drinking containers, lipstick, and smoking materials.

What are the options for meningococcal vaccine?

Meningococcal vaccine (MenACWY) is highly effective at protecting against four strains of the meningococcal bacteria. Three strains are common in the United States and the fourth strain protects travelers to certain countries where the disease is more common.

The MenACWY vaccine does not contain the meningococcal B strain that may cause some cases in adolescents/young adults. The meningococcal B vaccine (MenB) can be given to people age 16-23 years. MenB vaccine is also recommended for people age 10 years and older with certain high-risk conditions. If your clinic does not carry the MenB vaccine, you can ask them to order it for you, or to refer you to another clinic that has the

vaccine. Talk to your health care provider about this additional vaccine.

Who should get the meningococcal vaccines?

The MenACWY vaccine is recommended for college freshman living in a dormitory. The vaccine has been recommended for 11-12 year olds since 2005, so it is possible that incoming freshmen have already received a dose. If you received a dose before age 16, you should get a booster before you go to college.

What are the risks from meningococcal vaccines?

Most people have mild side effects from the vaccine, such as redness or pain where the shot was given. A vaccine, like any medicine, may cause serious problems, such as severe allergic reactions. This risk is extremely small. Getting the meningococcal vaccine is much safer than getting the disease.

You can learn more on the Vaccine Information Statements (www.immunize.org/vis/) for meningococcal ACWY and meningococcal B.

Are free or low-cost meningococcal shots available?

Yes, if you don't have insurance or your insurance does not cover the cost of the meningococcal vaccines, you may be able to find free or low-cost meningococcal shots. Note that there may still be an administration fee of up to $21.22 per shot.

- If you are **18 years old or younger**: Talk to your doctor or clinic to see if they participate in the Minnesota Vaccines for Children Program.
- If you are **19 years old or older**: Go to Vaccination Clinics Serving Uninsured and Underinsured Adults (www.health.state.mn.us/divs/idepc/immunize/adultvax/clinicsearch.html) to search for a clinic near you that offers low-cost vaccines for eligible adults.
- Talk to your city or county health department. They may be able to provide low-cost meningococcal shots.

How can I learn more?

Talk to your doctor or clinic, or call your local health department's immunization program. You can also find information on these websites:

- MDH: Meningococcal Disease (www.health.state.mn.us/divs/idepc/diseases/meningococcal/)
- CDC: Meningococcal Vaccination (www.cdc.gov/vaccines/vpd/mening/index.html)
- National Meningitis Association (www.nmaus.org)

Vaccine Preventable Disease Section
PO Box 64975
St. Paul, MN 55164-0975
651-201-5503 or 1-800-657-3970
www.health.state.mn.us/immunize

To obtain this information in a different format, call: 651-201-5414.

MDH Minnesota Department *of* Health

IMMUNIZATION PROGRAM

Minnesota's College Immunization Law

What you need to know about the College Immunization Law

When you enroll in college in Minnesota, be prepared to show proof that you've been vaccinated against these five diseases or have a legal exemption: measles, mumps, rubella, tetanus, and diphtheria.

The Minnesota College Immunization Law applies to anyone who was born after 1956. However, students who graduated from a Minnesota high school in 1997 or later are exempt from these requirements (because they will already have met them).

Information about vaccine-preventable diseases

Measles is very contagious and can be very serious. Symptoms include high fever and rash. It can cause life-threatening pneumonia, brain swelling, middle-ear infections, severe diarrhea, and seizures. The risk of death from measles is higher in adults than in children.

Mumps causes swelling of the glands behind the jaw. It can cause hearing loss, and about one out of four teenage or adult men who have mumps may experience swelling of the testicles. In rare cases, it can cause sterility.

Rubella is another disease that has a rash. It is usually a mild disease in children, but if a pregnant woman gets rubella, it can cause serious birth defects including glaucoma, cataracts, deafness, and mental retardation.

Tetanus or "lockjaw" can cause muscle spasms so severe that a person may stop breathing. The tetanus germ is commonly found in dirt. Wounds, small burns, or scratches can be a source of infection, and deep puncture wounds are especially dangerous.

Diphtheria is a serious bacterial disease that can lead to breathing problems, heart failure, and sometimes death.

Human Papillomavirus (HPV) is very common and spreads through sexual activity. In most cases, HPV goes away on its own, but it can cause health problems like genital warts and cervical and other cancers. All boys and girls are recommended to get vaccinated starting at age 11-12 years old; however, older teens and young adults should still catch up on this vaccine. Talk to your health care provider.

Meningococcal disease is a serious illness caused by bacteria. It causes meningitis, an infection of the lining of the brain and the spinal cord. It can also cause blood infections. Anyone can get meningococcal disease, but college students living in dorms or close quarters are at increased risk. There are two different vaccines that protect against meningococcal disease.

Information about hepatitis A, B and C

Hepatitis A is an infection in the liver caused by the hepatitis A virus. It is spread by close contact with an infected person or by eating/drinking contaminated food and water. Symptoms include severe nausea, tiredness and weakness, and yellowing of the skin and eyes. Symptoms are more severe in adults than in children. Symptoms may last for several weeks resulting in missed school and work. There is a vaccine to prevent hepatitis A.

Hepatitis B is an infection in the liver caused by the hepatitis B virus. Hepatitis B infection can be life-long and can lead to cirrhosis, liver cancer, and even death. Hepatitis B virus is easily spread through contact with an infected person's blood or body fluids, including sexual contact. Many people do not have symptoms until many years later.

Vaccination is the best way to prevent hepatitis B infection. Treatment may help in later stages of chronic illness but cannot help when the initial infection occurs.

Hepatitis C is a liver infection caused by the hepatitis C virus. The infection is spread by contact with the blood of an infected person. Most persons who get hepatitis C carry the virus for the rest of their lives.

There is no vaccine to prevent hepatitis C. Like hepatitis B there is treatment available to help in later stages of chronic illness.

Should I still get hepatitis A and B, HPV and meningococcal shots if they're not required?

Yes.

- The meningococcal ACWY vaccine is recommended for all persons through age 21 years. Also, talk to your health care provider about the meningococcal B vaccine.
- Hepatitis B is highly contagious, and the highest rate of disease occurs in persons age 20-45 years. This vaccine is recommended for all infants so it is possible you have already received this vaccine. If you will be going into a health care profession, your employer will probably require that you show proof of vaccination.
- Hepatitis A is still common in the U.S. and traveling outside of the U.S. is a risk factor for getting hepatitis A infection.
- HPV is very common. Getting vaccinated offers protection against cancer and genital warts.
- If you will be **traveling internationally**, it's likely you'll need even more shots. Talk to your health care provider.

What do I have to do?

Under Minnesota law, you have to submit an immunization record to your college or meet one of the legal exemptions (see below). You might be automatically exempt if you graduated from high school in Minnesota since 1997 or you were previously enrolled in another college in Minnesota.

Are there other legal exemptions?

Yes. You don't have to get a vaccine if you are already immune to the disease it prevents. For combination vaccines, like MMR vaccine, you would need to get it if you had measles, but not mumps or rubella.

Your doctor can sign an exemption if you have a medical reason not to be vaccinated.

You can get a non-medical exemption if you object to an immunization. You will need to submit a notarized statement that your conscientiously held beliefs prevent you from getting the vaccines you specify.

What if I can't find my shot record?

- Try to remember where you were immunized and see if your doctor or clinic still has the records.
- If you attended school in Minnesota (before college) your former school district may have your records.
- If you grew up in Minnesota, you can call the Minnesota Immunization Information

Connection (MIIC) at 651-201-5207 or 1-800-657-3970 to request your immunization record.

- If you still can't find your records, you'll probably have to repeat the shots and start a new record.

Are the shots safe?

The vaccines are safe and effective. There can be mild side effects (e.g., slight fever, sore arm). It's very rare for more severe side effects to occur. If you are unimmunized, your chances of becoming ill and suffering serious complications are much higher. Extra doses usually do not increase the chance of side effects.

Where can I get the shots?

Your health care provider can give you the shots you need. If you don't have a health care provider, or don't have health insurance, you may be able to get free or low-cost shots. If you're 18 years of age or younger, you may qualify for the Minnesota Vaccines for Children Program. If you're 19 years of age or older, you may qualify for the Uninsured and Underinsured Adult Vaccine program. Go to Vaccine Clinic Look-Up (www.health.state.mn.us/divs/idepc/immunize/vaxfinder.html) for more information. Your local public health agency may be able to direct you to services. Your college may also offer the shots through the health service or a special immunization clinic.

Minnesota Department of Health
Immunization Program
PO Box 64975, St. Paul, MN 55164
651-201-5503
www.health.state.mn.us/immunize

To obtain this information in a different format, call: 651-201-5503.

DEPARTMENT OF HEALTH

Hepatitis A

What is hepatitis A?

Hepatitis A is an infection of the liver caused by the hepatitis A virus.

What are the symptoms of hepatitis A?

Some people have very severe symptoms and other people have no symptoms at all. Children generally have no symptoms.

If symptoms occur, they usually start suddenly and include fever, tiredness, loss of appetite, and nausea. Other symptoms that may appear a few days later include dark (tea or cola-colored) urine, light-colored stool, and yellowing of eyes or skin (jaundice). Jaundice occurs more often in adults than in children. Symptoms can last for several weeks.

Hepatitis A does not become a chronic (long-term) infection.

What are the complications of hepatitis A?

Hepatitis A can sometimes cause a severe, sudden, and overwhelming infection of the liver (fulminant hepatitis). Persons who have other liver diseases are at highest risk for this.

Is there a treatment for hepatitis A?

There are no specific medications to treat hepatitis A.

How is hepatitis A diagnosed?

A blood test can determine whether a person is infected with hepatitis A.

How is hepatitis A spread to others?

Hepatitis A is spread by a virus found in the stool of a person who has hepatitis A.

A person gets infected when the hepatitis A virus gets into his or her mouth. Some common ways this can happen are:

- Eating or drinking contaminated food or beverages.
- Placing toys or other things in the mouth that are contaminated.
- During some sexual activities.

Children may pass the virus to family members or caregivers without ever having symptoms.

A person with hepatitis A can spread the disease beginning two weeks before symptoms develop until one week after the onset of jaundice. If a person does not have jaundice, he or she can spread the disease for two weeks after the start of symptoms.

Symptoms develop two to seven weeks (usually about one month) after exposure to hepatitis A.

Who gets hepatitis A?

Anyone of any age can get hepatitis A. Many people do not know where they got the infection.

People who are at increased risk of getting hepatitis A are:

- Household contacts of infected persons.
- Sexual contacts of infected persons.
- Persons traveling to countries where hepatitis A is common.
- Injecting and non-injecting drug users.

Is there a vaccine for hepatitis A?

Yes, hepatitis A vaccine is recommended for all children at 12 months of age. Anyone 12 months of age and older who has not been vaccinated and wants to be protected against hepatitis A can get vaccinated. Your health care provider may recommend that you get vaccinated if you are at increased risk of getting hepatitis A.

What can be done to prevent the spread of hepatitis A to others?

Vaccination is the best way to prevent the spread of hepatitis A.

Washing your hands after using the toilet, after changing a diaper, and before preparing or eating food will help prevent the spread of hepatitis A.

What should I do if I have been exposed to hepatitis A?

For healthy persons age 12 months and older, hepatitis A vaccine may be given to stop the onset of symptoms in persons exposed within the previous two weeks.

Depending on their provider's risk assessment, persons over age 40 years may also receive a product called immune globulin (IG) in addition to the hepatitis A vaccine.

For children under 12 months of age, immune globulin (IG) may be given in persons exposed within the previous two weeks.

Hepatitis Unit
PO Box 64975
St. Paul, MN 55164-0975
651-201-5414 or 877-676-5414
www.health.state.mn.us/hepatitis

To obtain this information in a different format, call: 651-201-5414.

HEPATITIS B

General Information

What is hepatitis?

"Hepatitis" means inflammation of the liver. The liver is a vital organ that processes nutrients, filters the blood, and fights infections. When the liver is inflamed or damaged, its function can be affected. Heavy alcohol use, toxins, some medications, and certain medical conditions can cause hepatitis. However, hepatitis is most often caused by a virus. In the United States, the most common types of viral hepatitis are Hepatitis A, Hepatitis B, and Hepatitis C.

The only way to know if you have Hepatitis B is to get tested.

What is Hepatitis B?

Hepatitis B can be a serious liver disease that results from infection with the Hepatitis B virus. **Acute Hepatitis B** refers to a short-term infection that occurs within the first 6 months after someone is infected with the virus. The infection can range in severity from a mild illness with few or no symptoms to a serious condition requiring hospitalization. Some people, especially adults, are able to clear, or get rid of, the virus without treatment. People who clear the virus become immune and cannot get infected with the Hepatitis B virus again.

Chronic Hepatitis B refers to a lifelong infection with the Hepatitis B virus. The likelihood that a person develops a chronic infection depends on the age at which someone becomes infected. Up to 90% of infants infected with the Hepatitis B virus will develop a chronic infection. In contrast, about 5% of adults will develop chronic Hepatitis B. Over time, chronic Hepatitis B can cause serious health problems, including liver damage, cirrhosis, liver cancer, and even death.

How is Hepatitis B spread?

The Hepatitis B virus is spread when blood, semen, or other body fluids from an infected person enters the body of someone who is not infected. The virus can be spread through:

- **Sex with an infected person.** Among adults, Hepatitis B is often spread through sexual contact.
- **Injection drug use.** Sharing needles, syringes, and any other equipment to inject drugs with someone infected with Hepatitis B can spread the virus.
- **Outbreaks.** While uncommon, poor infection control has resulted in outbreaks of Hepatitis B in healthcare settings.
- **Birth.** Hepatitis B can be passed from an infected mother to her baby at birth. Worldwide, most people with Hepatitis B were infected with the virus as an infant.

Hepatitis B is **not** spread through breastfeeding, sharing eating utensils, hugging, kissing, holding hands, coughing, or sneezing. Unlike some forms of hepatitis, Hepatitis B is also not spread by contaminated food or water.

What are the symptoms of Hepatitis B?

Many people with Hepatitis B do not have symptoms and do not know they are infected. If symptoms occur, they can include: fever, feeling tired, not wanting to eat, upset stomach, throwing up, dark urine, grey-colored stool, joint pain, and yellow skin and eyes.

When do symptoms occur?

If symptoms occur with an acute infection, they usually appear within 3 months of exposure and can last up to 6 months. If symptoms occur with chronic Hepatitis B, they can take years to develop and can be a sign of advanced liver disease.

Continued on next page

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

How would you know if you have Hepatitis B?

The only way to know if you have Hepatitis B is to get tested. Blood tests can determine if a person has been infected and cleared the virus, is currently infected, or has never been infected.

Who should get tested for Hepatitis B and why?

CDC develops recommendations for testing based upon a variety of different factors. Here is a list of people who should get tested. The results will help determine the next best steps for vaccination or medical care.

All pregnant women are routinely tested for Hepatitis B. If a woman has Hepatitis B, timely vaccination can help prevent the spread of the virus to her baby.

Household and sexual contacts of people with Hepatitis B are at risk for getting Hepatitis B. Those who have never had Hepatitis B can benefit from vaccination.

People born in certain parts of the world that have increased rates of Hepatitis B. Testing helps identify those who are infected so that they can receive timely medical care.

People with certain medical conditions should be tested, and get vaccinated if needed. This includes people with HIV infection, people who receive chemotherapy and people on hemodialysis.

People who inject drugs are at increased risk for Hepatitis B but testing can tell if someone is infected or could benefit from vaccination to prevent getting infected with the virus.

Men who have sex with men have higher rates of Hepatitis B. Testing can identify unknown infections or let a person know that they can benefit from vaccination.

How is Hepatitis B treated?

For those with acute Hepatitis B, doctors usually recommend rest, adequate nutrition, fluids, and close medical monitoring. Some people may need to be hospitalized. People living with chronic Hepatitis B should be evaluated for liver problems and monitored on a regular basis. Treatments are available that can slow down or prevent the effects of liver disease.

Can Hepatitis B be prevented?

Yes. The best way to prevent Hepatitis B is by getting vaccinated. The Hepatitis B vaccine is typically given as a series of 3 shots over a period of 6 months. The entire series is needed for long-term protection.

Who should get vaccinated against Hepatitis B?

All infants are routinely vaccinated for Hepatitis B at birth, which has led to dramatic declines of new Hepatitis B cases in the US and many parts of the world. The vaccine is also recommended for people living with someone infected with Hepatitis B, travelers to certain countries, and healthcare and public safety workers exposed to blood. People with high-risk sexual behaviors, men who have sex with men, people who inject drugs, and people who have certain medical conditions, including diabetes, should talk to their doctor about getting vaccinated.

For more information

Talk to your doctor, call your health department, or visit www.cdc.gov/hepatitis.

MINNESOTA DEPARTMENT OF HEALTH
VACCINE-PREVENTABLE DISEASE SECTION

Common Questions About Hepatitis C Virus (HCV) Infection

What are the differences between acute, chronic, and resolved HCV infection?

Acute HCV infection implies a new infection which may or may not resolve (go away). Chronic HCV infection implies that the infection did not resolve and that the liver may suffer permanent damage. Resolved HCV infection means the viral infection has run its course or, if the patient responds to anti-viral treatment, the infection may be cleared by therapy.

If I'm HCV-infected, what are the next steps for me?

The first step is to see your doctor to determine the severity of liver damage. This may involve a liver biopsy or other tests. Decisions about treatment will be based on results of the evaluation and other factors (e.g., age, underlying medical conditions, and use of alcohol or illicit drugs).

What is the treatment for HCV infection?

Hepatitis C direct-acting antiviral agents, used alone or in combination with ribavirin and interferon, are approved for the treatment of persons with chronic hepatitis C.

Is there anything besides antiviral treatment?

Some patients with significant liver damage are candidates for a liver transplant.

Why doesn't everyone who is infected receive treatment?

The decision to treat is based on evidence of ongoing infection, results of liver evaluation, age, current use of alcohol or illicit drugs, and whether or not certain underlying medical conditions exist.

I understand that I need to avoid alcohol; what else should I avoid?

Some over-the-counter medications may be toxic to the liver. Check with your health care provider before taking any medications (prescription or over-the-counter) or supplements.

While limited, brief exposure to many chemicals and fumes is probably not hazardous, a continuous long-term exposure could affect your liver. When you inhale any chemical, your liver has the job of removing toxins from your body. Too much exposure makes your liver work harder and these chemicals may damage the liver.

How serious is HCV infection?

Many people with HCV infection will never develop symptoms. Ten to 20 percent of HCV-infected persons will go on to develop cirrhosis (scarring of the liver). Less than 5 percent will actually die of HCV. The good news is that new treatments to cure HCV are becoming available.

I'm HCV infected, but are there other reasons my ALT might be elevated?

Yes, such as alcohol consumption. A liver biopsy is useful if the ALT level is high.

How do I protect my family?

- Don't share personal items such as needles, razors for shaving, toothbrushes, etc.
- Clean up blood and blood-contaminated surfaces right away with detergent and water, followed by disinfecting with a household bleach and water solution (1/4 cup bleach in one gallon of water).
- Cover any wounds.

Is my sexual partner at risk?

There is some risk of transmitting HCV infection through sexual contact; however, this risk is low (much lower than transmission rates for HIV and hepatitis B). If you want to lower this risk, latex condoms can be used. Steady sexual partners should be offered HCV counseling and testing.

If I'm infected with HCV, should I inform future sexual partners and use a condom?

YES!

I'm pregnant or want to become pregnant soon. Will my child become infected?

Transmission of HCV can occur at birth; however, the risk is estimated to be less than 6 percent. Breastfeeding has not been shown to transmit HCV from mother to baby. A positive HCV test during a baby's first year may be only maternal antibody. Testing for HCV antibody after 1 year of age will give more accurate results.

I'm a health care worker who was recently exposed to HCV; is there post-exposure prophylaxis or a vaccine?

No. Immune globulin is not recommended for postexposure prophylaxis against HCV, and prophylactic antiviral therapy (as is done for HIV) is also not recommended. However, following exposure, a health care worker should be tested for HCV antibody right away and at 6 months so that early HCV infection can be identified. Several studies suggest that interferon treatment begun early in the course of HCV infection is associated with a higher rate of cure; however, further studies are needed to confirm this. There is no hepatitis C vaccine.

Can I donate blood or organs for others?

No.

For more information, contact:
Minnesota Department of Health
Cross-cutting Epidemiology, Programs, and Partnerships Section
www.health.state.mn.us/hepatitis
651-201-5414 or 1-800-676-5414