

Important Information for Parents About Meningococcal Disease and Meningococcal Vaccines from the Oklahoma State Department of Education and the Oklahoma State Department of Health

What is meningitis?

Meningitis is an infection of the spinal cord fluid and the fluid that surrounds the brain. Meningitis is usually caused by a virus or a bacterium. Meningitis caused by a virus is usually less severe and resolves without specific treatment, while meningitis caused by bacteria can be severe and may result in:

- Brain damage,
- Hearing loss,
- Limb amputation,
- Learning disabilities, or
- Death.

What types of bacteria cause meningitis?

There are several types of bacteria that may cause meningitis, including:

- *Neisseria meningitidis*
- *Streptococcus pneumoniae*,
- Group B streptococcal disease, and
- *Haemophilus influenzae* type B (Hib).

This information sheet will focus on the disease caused by *Neisseria meningitidis* (Nay-sear-e-a men-in-git-it-dis), which is rare but especially risky for certain ages. Disease caused by *Neisseria meningitidis* is usually referred to as "meningococcal disease" (men-IN-jo-kok-ul disease). Many persons can be exposed to *Neisseria meningitidis* and carry the bacteria in their nose and throat for weeks to months spreading the bacteria to others, but not become ill. If the meningococcal bacteria invade the body, they may cause a rapidly spreading bloodstream infection, lung infection or meningitis. More information about the other kinds of bacteria that cause meningitis can be found at the web sites listed in the box at the end of this information sheet.

Who is at risk from meningococcal disease?

Babies less than a year old have the highest risk for meningococcal disease, but no vaccine is available to protect them. The risk of meningococcal disease increases for adolescents and young adults aged 15 to 22 years, because of behaviors that spread the disease. On average, two to three people in this age group get meningococcal disease every year in Oklahoma. More than half of these could be prevented by vaccine.

College students, military personnel, or other persons living in close quarters or dormitory-style housing have a greater chance of contracting the disease than other persons their age. Other persons at increased risk include smokers or persons frequently exposed to second-hand smoke, those with immune system

problems, those without a spleen, or international travelers going to countries where the disease is more common.

How is the disease spread?

The disease is spread by respiratory droplets produced by a person harboring the bacteria and expelled a short distance by laughing, singing, coughing, or sneezing. The bacteria may also be spread by direct contact with the respiratory fluids of someone who is infected. That includes kissing, or sharing a water bottle, food item, cigarettes, lipstick, lip balm, mouth guard or anything an infected person touches with his or her nose or mouth.

Why is meningococcal disease dangerous?

Meningococcal disease is relatively uncommon with about 2,500 people affected every year in the United States. However, the infection can spread very quickly and 300 of those people die in spite of treatment with antibiotics. Of those who live, about 400 a year lose their arms or legs, become deaf, have problems with their nervous systems, become mentally retarded, or suffer seizures or strokes.

For this reason, it is best to prevent the disease from occurring. Signs and symptoms of meningococcal disease may be confused with other infectious diseases. If your child has symptoms of meningococcal disease, contact your healthcare provider immediately.

Signs and Symptoms of Meningitis

- Headache
- Fever
- Chills
- Stiff neck
- Extreme tiredness
- Vomiting
- Sensitivity to light
- Rash of purplish black-red dots or splotches
- Confusion
- Seizures

How can meningococcal disease be prevented?

Vaccines can prevent approximately two-thirds of the meningococcal disease cases. There are two types of meningococcal vaccine available in the United States that protect against four of the five most common disease-causing strains of the meningococcal bacteria.

One dose of the newest vaccine type, called meningococcal conjugate vaccine, or MCV4, is recommended for:

- All adolescents 11-18 years of age
- College freshmen living in dormitories if not vaccinated previously, and
- Other people at high risk 2 through 55 years of age.

The other type of vaccine, meningococcal polysaccharide vaccine, or MPSV4, was effective in older children and teenagers but booster doses were needed every three to five years. The MCV4 vaccines protect against the same types of meningococcal bacteria and the protection lasts longer. MPSV4 is still used for adults over 55 years of age who are at risk for meningococcal disease.

Teenagers and young adults can also reduce their risk by taking good care of themselves, by eating a balanced diet, getting enough sleep and exercise, as well as avoiding cigarettes and alcohol.

Is the meningococcal vaccine safe?

Yes, both types of vaccine are safe; however, there are small risks associated with any vaccine. About half of the people who receive a meningococcal vaccine will have pain and redness where the shot was given, but because the vaccine is not made from the whole bacteria, it cannot cause bloodstream infections or meningitis. A small percentage of people who get the vaccine develop a fever. Vaccines, like all medicines, carry a risk of an allergic reaction, but this risk is very small.

A few cases of Guillain-Barré Syndrome (GBS), a serious nervous system disorder, have been reported among people who received MCV4. However, GBS is such a rare disease that it is not possible right now to tell if the vaccine is a part of the cause or simply due to chance alone because a number of cases of GBS will occur every year even without the use of MCV4 vaccine.

Does the meningococcal vaccine work?

Yes. A single dose of MCV4 meningococcal vaccine protects about 90 percent of the people who are immunized against meningococcal disease caused by types A, C, Y, and W-135. These types cause almost two-thirds of all meningococcal disease in teenagers in the United States. It does not prevent type B, which causes about one third of the cases in teenagers.

Does the meningococcal vaccine prevent all cases of meningitis?

No, it cannot provide protection against other causes of bacterial meningitis or type B meningococcal disease. Scientists have not been able to make a vaccine that will protect against type B.

Where can I get the vaccine for my son or daughter?

If your child has health insurance, you can obtain the meningococcal vaccine from your regular healthcare provider. All county health departments in Oklahoma have the vaccine available at no charge for children 11 through 18 years of age who:

- Have no health insurance,
- Are Medicaid eligible,
- Are Native American, or
- Have health insurance that does not pay for vaccines or does not pay for meningococcal vaccine;

and for children 2 through 18 years of age who are at high risk from meningococcal disease including those who:

- Do not have a spleen,
- Have terminal complement deficiencies, or HIV infection, or
- Will be traveling to countries with high rates of meningococcal disease.

Is this vaccine required to attend school in Oklahoma?

Meningococcal vaccine is required for students who are enrolling for the first time in colleges and post-high school educational programs and who will live in dormitories or on-campus student housing. This vaccine is not required for children in elementary or high school in Oklahoma, even though it is recommended for all adolescents 11 years and older.

Where can I find more information?
 For more information, contact your healthcare provider or local county health department or visit these web sites:
 National Meningitis Association at www.nmaus.org
 Centers for Disease Control and Prevention at <http://www.cdc.gov/meningitis/index.htm>



This information sheet was prepared with information obtained from the Oklahoma State Department of Health, the Centers for Disease Control and Prevention, and the Children's Hospital of Philadelphia. (Revised 6-10)

