

## Q & A on Meningococcal Disease and Vaccine Update, June, 2011

### **What is meningococcal disease?**

Meningococcal disease is caused by bacteria (germs) called *Neisseria meningitidis*. Although meningococcal disease is uncommon, it is a very serious disease. The infection can develop very quickly and can be fatal in 10 per cent of cases or more. If infection is diagnosed early enough and the right antibiotics are given quickly, a patient can make a complete recovery.

### **Is it the same as meningitis?**

No, but can be the cause of meningitis. Meningitis is sometimes the result of meningococcal infection.

Severe infections from meningococcal bacteria can cause:

- **meningitis** – an infection of the membranes covering the brain and spinal cord. Meningitis can also be caused by other bacteria, viruses, fungi, etc. in addition to meningococcal bacteria,
- **sepsis** [or septicemia]– overwhelming infection in the bloodstream. When caused by meningococcal bacteria, it is sometimes called “meningococemia.” Sepsis can also be caused by other bacteria.
- Both meningococcal meningitis and meningococcal sepsis can occur in the same patient. Patients with sepsis usually have a higher fatality rate.

### **How serious is meningococcal disease?**

Meningococcal bacteria live in the throats of up to 15% of the population at any one time. Most people who are infected with the bacteria don't know it. Of those who are infected with the bacteria, only about 1% gets sick from it.

But, in that 1%, the seriousness of the illness can range from very mild to extremely serious and in some cases, lead to rapid death.

### **How long does it take for symptoms to show up after a person is exposed to meningococcal bacteria?**

The incubation period from when a person is exposed to when he or she may show symptoms usually ranges from 2–10 days, but is most often 3-4 days.

### **What is my risk of getting meningococcal disease?**

- Generally, your risk of getting meningococcal illness is low. Only a very small number of people with meningococcal bacteria in their throats develop meningococcal disease
- Meningococcal bacteria live naturally in the back of the nose and throat in about 5 – 15% of the population without causing illness. In outbreaks this percentage can be higher.
- In a small number of people, the bacteria manage to get through the lining of the throat, enter the bloodstream and cause “invasive” meningococcal disease” (meningitis or sepsis [septicemia]).

- If you have been in very close contact with someone with the illness, your risk of getting meningococcal disease is heightened.
- Household members of confirmed cases have 400 – 800 times the risk of meningococcal disease than the average person.
- Risk is also heightened for those with specific immune system problems (“complement deficiency”) or who have had their spleen removed (or non-functioning spleen).

**Who is most at risk of serious meningococcal disease?**

Very close contacts of an infected person are most at risk of getting infected with meningococcal bacteria. Close contacts include:

- Members of the same household
- A girlfriend or boyfriend
- Anyone who has stayed overnight with the affected person in the seven days before the illness appeared.
- Anyone who has kissed or shared eating utensils, drink containers, toothbrushes, cigarettes, or anything that has been in the mouth of the affected person

**What are the symptoms of meningococcal illness in adults and older children?**

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| <ul style="list-style-type: none"> <li>• Fever*</li> <li>• Headache</li> <li>• Loss of appetite</li> <li>• Neck stiffness/pain</li> <li>• Discomfort when looking at bright lights (photophobia)</li> <li>• Nausea and/or vomiting</li> <li>• Diarrhea</li> <li>• Aching muscles or swollen joints</li> </ul> | <ul style="list-style-type: none"> <li>• Difficulty walking</li> <li>• General malaise</li> <li>• Moaning, unintelligible speech</li> <li>• Excessive drowsiness</li> <li>• Confusion</li> <li>• Collapse</li> <li>• Skin changes (rash) with red-purple pinpoint spots or larger bruises.</li> </ul> |
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\*without significant fever, it is very unlikely that a person would have meningococcal disease.

**Signs and symptoms in infants and young children: similar to above, but may also include:**

- refusing to eat
- irritability/fretfulness
- grunting or moaning
- extreme tiredness or floppiness
- turning away from light
- convulsions or twitching
- dislike of being handled

**What should I do if I or someone I know has these symptoms?**

- Seek medical help immediately if somebody close to you has some of these signs and symptoms, and you are worried that they are much sicker than usual.
- In the very early stages, meningococcal disease can appear to be like other, less serious illnesses. Your doctor may not immediately recognize this illness. Do not hesitate to seek medical help again – even if it has only been an hour or two since you last sought help.
- If the person seems to be sicker, has suddenly developed small red/purple spots or larger bruises on the skin, or becomes difficult to wake up – seek medical help urgently.
- Young adults should not be left alone if they suddenly develop a high fever ( $>101^{\circ}$ )—they may become seriously ill very quickly.

### **How is meningococcal disease treated?**

If the infection is diagnosed early, it can be treated with antibiotics.

- **Early antibiotic treatment is vital**
- If meningococcal disease is suspected, antibiotics are given immediately. People with meningococcal disease are always admitted to hospital and may require admission to an Intensive Care Unit.
- The sooner that antibiotics and other treatments begin, the less damage the disease will cause. However, this is a very serious infection, which can progress very rapidly despite the best treatment.

### **Do meningococcal bacteria spread easily?**

Only a very small number of people with meningococcal bacteria in their throats develop meningococcal disease. Meningococcal bacteria are only found in humans. They are passed from person to person by regular, close, household contact or intimate contact with secretions from the back of the nose and throat like saliva or nasal mucus. This can occur when someone coughs or sneezes directly in your face, or through kissing, sharing drinks, eating utensils, smokes, or putting anything in your mouth that has been in someone else's mouth (hookah mouthpiece, lipstick, etc). They cannot be picked up from water supplies, swimming pools, ice skating rinks, buildings or factories.

### **Do meningococcal bacteria live very long outside of the body?**

Different strains may vary, but they generally live for only a short time outside the human body, a few minutes to several hours. They are spread by human-to-human close contact that allows an exchange of oral or nasal secretions. They are not found in animals, just humans.

### **Will everyone who gets meningococcal germs in their throats get sick?**

No. Meningococcal bacteria live naturally in the back of the nose and throat in about 5 – 15% of the population at any given time without causing illness. But, in a small number of people, the bacteria manage to get through the lining of the throat, enter the bloodstream and cause “invasive” meningococcal disease (meningitis or septicemia).

### **Are certain people the more common “carriers” of meningococcal bacteria?**

People of any age can ‘carry’ the germs without becoming ill and carriers eventually develop immunity to the strains they carry. Although everyone is a carrier at some time,

carriers are most common among teenagers and young adults, especially those who smoke.

**If someone in my household gets meningococcal disease, will I be at risk of getting sick?**

You would be a close contact and would be considered at risk of becoming ill. You should seek preventive treatment with the right antibiotics (usually Cipro or Rifampin).

**Who usually gets sick from meningococcal bacteria?**

In healthy persons, serious illness is more common in teens and young adults. Smoking, bar patronage, and excessive alcohol consumption may put college students at increased risk for the disease. In persons with underlying health problems, someone with specific defects in their immune system or who has had a spleen removed is at increased risk. However, meningococcal disease can occur among people of either gender and in all age groups, including those considered healthy. A household contact to a meningococcal patient faces a risk of 400 to 800 times an average person's risk.

**How is meningococcal disease prevented?**

- In the short term, meningococcal disease can be prevented in close contacts of meningococcal patients by treatment with specific antibiotics shown to be effective at eliminating the bacteria from the throat.
- In the longer term, vaccines provide better protection from disease. However, recent studies have shown that the protection by vaccine wanes after a couple of year, and by 5 years after vaccination is back down to pre-vaccination levels.

**How is meningococcal disease treated?**

Patients with symptoms of meningococcal disease need to be hospitalized and started on intravenous antibiotics (these are different than the antibiotics used to prevent illness in contacts). It is important that treatment be started early in the course of the disease to increase the chances of survival.

**Is there a vaccine for meningococcal disease?**

Meningococcal vaccines are available to help protect against most of the types of meningococcal bacteria that cause serious disease, but they do not prevent all cases, and their effectiveness decreases with time since vaccination. There are two kinds of vaccines against *Neisseria meningitidis* available in the United States: meningococcal polysaccharide vaccine (Menomune®) and meningococcal conjugate vaccine (Menactra® and Menveo®). The conjugate vaccines are believed to provide better protection.

**Who should be vaccinated against meningococcal disease?**

Generally:

- Children: Meningococcal vaccine is recommended for certain **high-risk** children from ages 2 through 10.
- Pre-teens/Adolescents: Meningococcal vaccine is routinely recommended for all 11 through 18 year olds. If your child did not get this vaccine at the 11- or 12-year-old check-up, make an appointment for him or her to get it now.

- Adults: meningococcal vaccine is recommended for adults who
  - Are college freshmen living in a dormitory
  - Are military recruits
  - Have a damaged spleen or spleen has been removed
  - Have specific immune problem (complement deficiency)
  - Are traveling to or residing in countries in which the disease is common
  - Those wishing to reduce their risk of meningococcal disease.

*\*Priority populations for vaccination may change during an outbreak.*

### **Recent situation in Larimer County (June, 2010 – December, 2010)**

- The Fort Collins community saw a higher than usual number of serious meningococcal infections over six months in 2010. The state confirmed eight meningococcal disease cases linked to the outbreak in Larimer County (one of those lived in the Denver area with links to the CSU campus community). Five cases, including the one in Denver, resulted in death.
- All people who died after getting ill in Fort Collins had the same “C” strain of the bacteria and all died of meningococcal sepsis.

### **Why the concern over a relatively small number getting sick?**

Because of the possible severity of the illness in those that get ill from it.

### **Why are college students more at risk of getting this?**

Likely reasons are that at that age there is more chance that people will be living in group settings (dorms), will be socializing frequently where drinks and eating utensils are shared, will share cigarettes, hookahs, joints, and engage in other behaviors where saliva is passed from mouth to mouth. Meningococcal bacteria are spread through saliva.

### **How high is my risk of getting this right now?**

The risk to the general population is very low, even when there have been recent cases. However, the recent severe illnesses and deaths indicate that these bacteria are still circulating in the community so your chance of either getting it or passing it on is higher than usual.

Meningococcal bacteria live in the throats of approximately 15% of the general population at any one time. Of those who get infected from it, only about 1% becomes seriously ill.

### **How can I avoid getting it?**

- Avoid sharing drinks

- Avoid sharing eating utensils and food
- Consider vaccination
- Don't share cigarettes, hookahs and joints.
- Avoid drinking games and "pouring" games where drinks are poured directly into the mouths of participants.

**How long will the vaccine protect me or my child?**

The meningococcal vaccine protects against most strains of meningococcal disease, but not all. Studies have shown that its effectiveness lessens after three years.

**If I or my child already had a meningococcal vaccination, should they get another one?**

If you are under 30 and if it has been over three years since your last vaccination, it's recommended to get another at this time.

**I don't remember if or when I or my child had a meningococcal vaccine. How can I find out?**

- Call your health care provider to check your vaccine record.
- If you are a CSU student, contact the Hartshorn Student Health Center to check your record.

**Can I get the shot if I'm recovering from a cold?**

Yes it is OK to get the vaccine if you are recovering from a cold. You should not get the vaccine if you have a fever, but get the vaccine after the fever has gone away. If you are have questions about the vaccine please ask the clinician who is administering the vaccination for guidance.

**Where can I get a meningococcal vaccination?**

- Through your health care provider
- At local pharmacies
- At college health centers

**Do I need my parents' permission to get this vaccine?**

If you are over 18, you do not need your parents' permission. But it would be a good thing to discuss with them.

**Are there side effects of this shot?**

Side effects of the meningococcal vaccine are rare, unless a person is allergic to the vaccine ingredients. Most side effects include a sore arm the next day. Also, people of college-age tend to faint after receiving immunizations.

**Is there any special preparation I should do before coming to a clinic for a shot?**

- Eat something with some protein and carbs.
- Be well hydrated

- Wear short sleeves
- Relax!

**Where can I get more information on meningococcal disease and the meningococcal vaccine?**

- [www.cdc.gov](http://www.cdc.gov)
- [www.larimer.org/health](http://www.larimer.org/health)
- [www.cdphe.co.state.us](http://www.cdphe.co.state.us)
- CO-HELP telephone information line: 1-877-462-2911, 7 am to 11 pm, Mon through Friday; 9 am – 5 pm on weekends.

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