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DEPARTMENT OF HEALTH

Eastern Equine Encephalitis Fact Sheet

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Eastern Equine Encephalitis Fact Sheet (PDF) (http://www.health.state.mn.us/diseases/eeencephalitis/eee.pdf)

What is Eastern equine encephalitis?

Eastern equine encephalitis is a viral illness that is transmitted to people and horses through the bite of an infected mosquito. The virus is an alphavirus and is closely related to western equine encephalitis and Venezuelan equine encephalitis viruses. Illness caused by eastern equine encephalitis is rare and only a few human cases are reported in the United States each year.

How serious is Eastern equine encephalitis?

Most people infected with this virus will not develop any symptoms. Symptoms of illness may include a sudden onset of fever, chills, and muscle or joint aches. Cases with severe illness may begin with fever, headache, and vomiting that may progress into disorientation, seizures, and coma.

Eastern equine encephalitis is the most severe mosquitoborne disease in the United States. Approximately one in three persons who develop severe illness die. Most of those who survive will have permanent neurologic damage.

There is no treatment for eastern equine encephalitis. Hospitalization and supportive care may be needed.

Who is at risk for Eastern Equine Encephalitis?

Eastern equine encephalitis is typically found in the eastern United States (as far

west as Wisconsin), and in the south along the Gulf Coast. The risk of an outbreak in humans is low in Minnesota. No human cases have been reported here but a very small number of cases in horses have been reported in the past. Most of the horse cases occurred near tamarack bogs or hardwood swamps in northern and eastern Minnesota.

People who work outside or participate in outdoor activities are at greater risk because of exposure to mosquitoes. Children and persons over 50 years of age are at higher risk of severe disease.

What kind of mosquito spreads Eastern Equine Encephalitis?

In Minnesota, we have approximately 50 species of mosquitoes but not all mosquitoes feed on people. Eastern equine encephalitis virus is maintained in a cycle involving *Culiseta melanura* mosquitoes and birds. This mosquito is commonly found in tamarack bogs or hardwood swamps and feeds almost exclusively on birds. People become infected with this virus by other mosquito species that create a "bridge" between infected birds and mammals. Common human-biting mosquito species such as *Aedes vexans* and *Coquillettidia perturbans* are potential bridge vectors here in Minnesota. In general, the highest risk of mosquitoborne disease in Minnesota is typically from mid-July through mid-September.

What can people do to prevent Eastern Equine Encephalitis?

The best way to prevent eastern equine encephalitis is to protect yourself and your family from mosquito bites:

- Avoid outdoor activities at dusk and dawn, the peak feeding time for many mosquitoes, particularly from July through September.
- Use repellents containing DEET according to label directions – up to 30% DEET is safe and effective for adults and children over two months of age. Other effective repellents include picaridin, IR3535, and oil of lemon eucalyptus. Only use products that are registered by the Environmental Protection Agency.
- Pre-treat clothing and gear with permethrin-based products.
- Wear loose-fitting, long sleeved shirts and pants.
- Keep mosquitoes out of your home by maintaining screens on windows and doors.

To protect yourself and your family from other mosquitoborne illnesses in Minnesota:

Empty standing water from around your home at least once a week to prevent mosquitoes from using containers as breeding sites.
Buckets, flower pots/saucers, pet bowls, birdbaths, kiddie pools, etc.
Check gutters and remove leaves frequently to ensure proper drainage.
Tighten up loose tarps/covers so water does not pool.
Tightly cover or screen water storage containers (e.g., rain barrels).
Fill water-holding tree holes with dirt or sand.
Recycle old tires or store them where they can’t collect rainwater.

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