

# Eastern Equine Encephalitis Virus (EEEV)

## What is Eastern equine encephalitis (EEE)?

EEE is a vector-borne disease. A vector-borne disease spreads to humans or animals through infected insects that are called *vectors*.

Eastern equine encephalitis virus (EEEV):

- is normally found in wild birds that can occasionally spread to horses and humans through mosquitoes;
- is the most severe mosquito-borne disease acquired in North America, however is a rare illness in humans;
- can affect the central nervous system and cause severe complications and death;
- was found in mosquitoes in Ontario for the first time in 2009;
- has been identified in Ontario in horses and mosquitoes, but to date *no human cases have been reported*.

## Signs and symptoms

Symptoms of EEE in people usually appear 3 to 10 days after an infected mosquito bites a person.

Most people bitten by an infected mosquito won't have any symptoms. Others will only get a mild flu-like illness with fever, headache and fatigue.

Severe cases of EEE involves encephalitis (an inflammation of the brain), which starts with a sudden headache, high fever, chills and vomiting. If you're experiencing any of these symptoms seek medical attention. Approximately 33 per cent of people who develop EEE die of the disease, making it one of the most deadly mosquito-borne diseases in North America. Almost half of those infected survive the illness, but many survivors suffer permanent brain damage.

## Cause

There are approximately 50 types of mosquitoes in Ontario, only a few types of mosquitoes spread EEEV. Mosquitoes become infected by feeding on infected birds. Infected mosquitoes will then occasionally bite and infect horses, people or other mammals.

People and horses infected with EEEV do not spread the infection. Most dogs or cats infected with EEEV normally don't show signs of the illness. There is no proven evidence that dogs or cats can spread EEEV to people.

## Who is at risk?

In Ontario, your risk of being infected with EEEV is very low. Infections in people have been reported in several U.S. states bordering Ontario; however, no human cases in Ontario have been confirmed to date. In Ontario, occasional outbreaks of EEEV have taken place among horses.

## **Treatment**

There is no specific treatment for EEE. Antibiotics are not effective against viruses, and no effective anti-viral drugs have been discovered. Severe illnesses are treated by supportive therapy which may include hospitalization, respiratory support, IV fluids, and prevention of other infections.

## **How can I protect myself and my family?**

Protect yourself and your family from the EEEV and other mosquito-borne viruses by:

- using insect repellent that contains DEET;
- wearing long-sleeved shirts, pants and socks when outdoors;
- installing or repairing window screens;
- avoid being outdoors at dawn or dusk;
- draining stagnant water.

## **What should I consider when purchasing insect repellent?**

When choosing a repellent, consider a product that meets your needs, and only use insect repellents that are registered in Canada. Never use a product labeled as an insecticide on your body.

Make sure you:

- Read repellent label carefully before using
- Apply the insect repellent sparingly on any exposed skin (do not apply underneath clothes), avoiding your eyes. If you do get repellent in your eyes, rinse with water immediately.
- Spray in well ventilated areas
- Are not sensitive to a product by applying repellent to a small area on your arm and waiting 24 hours.

If you suspect you or your child may be having a reaction to the repellent, stop using the product immediately, wash the treated area, and seek medical attention.

## **Eastern equine encephalitis vaccine**

There is no EEEV vaccine for dogs, cats or people. There is an EEEV vaccine for horses. Contact your veterinarian to learn more.

## **Eastern equine encephalitis in horses**

Visit the Ontario Ministry of Agriculture and Food's Equine Neurological Disease web page for the most up-to-date data on EEE in horses.

## **Should I be concerned about travelling?**

EEEV is found mainly in swampy areas along the eastern and Gulf coasts of the U.S. from June through October.

If you're planning a trip to the Eastern United States or Gulf Coast

- be aware of the risk of EEE and take precautionary measures to prevent mosquito bites.
- visit the Center for Disease Control (CDC) website for information on reported human cases in the United States.

## **Where can I get more information?**

For more information call *Your Health Connection* at 705-721-7520 (1-877-721-7520), or visit the following websites:

**Simcoe Muskoka District Health Unit**

[www.smdhu.org](http://www.smdhu.org)

**Centers for Disease Control (CDC)**

<http://www.cdc.gov/EasternEquineEncephalitis/gen/qa.html>

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