



## FAQ's: Eastern Equine Encephalitis Virus (EEEV)

### What is EEE?

Eastern Equine Encephalitis is a rare disease that is caused by a virus (EEEV) spread by infected mosquitoes. EEEV is one of a group of viruses that mosquitoes can pass to humans and can cause inflammation and swelling of the brain (encephalitis).

### What is the difference between EEE and EEEV?

EEEV stands for Eastern Equine Encephalitis Virus; it is the virus that causes Eastern Equine Encephalitis (EEE). Only about 4-5% of people who are infected with the virus (EEEV) will develop EEE. EEEV infection can result in one of two types of illness: systemic or encephalitic. The encephalitic type involves swelling of the brain and is known as EEE.

### How likely am I /my family to contract EEE?

In the United States an average of 6 human cases of EEE are reported each year. Most cases occur in Florida, Georgia, Massachusetts and New Jersey.

### Who is at risk for contracting EEE virus (EEEV)?

People who work and spend time near swampy areas are at a greater risk for infection. People over age 50 and under age 15 are at a greater risk for developing EEE when infected with EEEV.

### How is Eastern Equine Encephalitis Virus (EEEV) transmitted?

EEEV lives in birds, but it is only passed to humans through mosquito bites. There are 70 different species of mosquitoes found in New York State, however only about 4 species have been found to be carriers of the virus.

### How soon do people get sick after getting bitten by an infected mosquito?

It takes 4-10 days after the bite of an infected mosquito to develop symptoms of EEE.

### What is the difference between systemic illness and encephalitis? What are the symptoms?

EEEV infection can result in either systemic or encephalitic illness. In the case of systemic illness, a person may have no symptoms or symptoms may include a sudden onset of chills, fever, a feeling of general discomfort, joint pain, and muscle aches. The illness lasts 1 to 2 weeks and recovery is complete when there is no central nervous system involvement. If a person develops the encephalitic illness (involving inflammation and swelling of the brain) known as EEE, symptoms may begin with the sudden onset of headache, high fever, chills, and vomiting. The person may then begin to develop disorientation (feeling confused), seizures, and coma. About one third of patients who develop EEE die and many of those who live will have mild to severe brain damage. Only about 4-5% of people infected with the virus (EEEV) ever develop EEE.

### How is EEE diagnosed?

Diagnosis is primarily based on tests of cerebrospinal fluid (CSF).

### What is the treatment for EEE?

There is no specific treatment for EEE. Antibiotics are not effective against viruses, and there is not currently an effective anti-viral drug. Treatment may include hospitalization, respiratory therapy, IV fluids, and prevention of other infections.

### Is there a vaccine for Eastern Equine Encephalitis Virus (EEEV)?

There is NOT currently a commercially available vaccine for humans. There is a vaccine for horses.

### Can I “catch” EEEV from an infected person?

No, EEEV is only transmitted to humans through the bite of a mosquito infected with the EEEV.

### What can I do to protect myself/my family from EEE?

The best way to protect yourself and your family from EEEV/EEE is to prevent mosquito bites.

- Use insect repellent containing DEET, picaridin, or oil of lemon eucalyptus on exposed skin and/or clothing. **Always follow the directions on the package.**
- Wear long sleeves and pants when possible.
- Permethrin can be used on clothing, but **NOT** on skin.
- Keep mosquitoes from entering your home with secure, intact screens on windows and doors.
- Get rid of mosquito breeding sites by emptying standing water from flower pots, buckets, barrels and other containers. Drill holes in tire swings so water drains out. Keep children's wading pools empty and on their sides when they aren't being used.

### What do I need to know if I have a horse?

EEEV can also be spread to horses by infected mosquitoes. There is a vaccine available for horses. An infected horse will not pass the virus on to people or other animals. For more information on vaccination consult your veterinarian or visit [www.aaep.org/eee\\_wee.htm](http://www.aaep.org/eee_wee.htm).

### Is it safe to go outside?

Generally, it is safe to go outside during the day. If you plan to be in an area where mosquitoes tend to be more active, such as swamps, marshes and woods, use precautions especially between dusk and dawn, the time when mosquitoes tend to be most active. Precautions minimally include covering up with long sleeves, pants, socks, shoes, and using insect repellent during active mosquito hours.

### **What is aerial spraying?**

Aerial spraying is a technique used to temporarily reduce a mosquito population. It is most effective when it is conducted in a concentrated area with large populations of EEEv positive mosquitoes. Widespread random spraying is not effective in controlling EEEv.

### **What are the benefits of spraying?**

Spraying (by air or truck) may temporarily reduce the numbers of mosquitoes for a short amount of time (about 1 week). However, spraying will NOT eliminate EEEv from the environment. Mosquito numbers and evidence of EEEv in mosquitoes may potentially return to what they were before spraying, in about a week. Spraying does not eliminate the need for people to protect themselves with the preventive measures mentioned above.

### **What factors are considered when making a decision about spraying?**

Factors to consider are but not limited to:

- The most recent mosquito, horse and human surveillance data.
- The numbers and species of positive mosquito populations (some species are more likely to bite humans, others more likely to bite birds).
- Whether the current positive results are geographically focal or widespread.
- Trends in minimum infectivity of mosquitoes.
- The density and proximity of human populations to positive mosquitoes.
- The time of year that positive results are found relative to historical trends.
- The geography of and accessibility to the area where mosquitoes are located.
- Forecasted weather conditions and the impact they could have on control measures.

### **What should I do if aerial spraying is occurring in an area I live in?**

Residents in the area should stay indoors and keep windows and doors closed for one hour after the spraying. Residents are also advised to:

- Keep pets indoors
- Close the vents on window air conditioners so that outside air doesn't enter the home for one hour
- Remove outdoor toys, outdoor furniture, and clothing from the clothesline. Items left outdoors should be washed thoroughly with soap and water before using
- If you are driving through an area while spraying takes place, close your car windows and vents
- Cover gardens, or rinse homegrown fruits and vegetables thoroughly before cooking or eating

### Will spraying make it safe to go outside?

Spraying will NOT eliminate EEEv from the environment. Mosquito numbers and evidence of EEEv in mosquitoes may potentially return to what they were before spraying, in about a week. Spraying does not eliminate the need for people to protect themselves with the preventive measures mentioned previously.

### Where are mosquito traps located in Madison County?

Madison County uses several locations in the northern part of Madison County to monitor mosquito activity and the presence of EEEv in the mosquito population. The information collected from these samples is used by the Madison County Health Department and New York State Department of Health to make mosquito control decisions. Specific locations are not given out in order to prevent vandalism to or theft of the equipment.

Remember the *best defense* against *EEE* is to prevent mosquito bites!

For additional information visit:

- [www.healthymadisoncounty.org](http://www.healthymadisoncounty.org)
- [www.nyhealth.gov](http://www.nyhealth.gov)
- [www.cdc.gov](http://www.cdc.gov)

*Adapted from Oswego County Health Department's EEEv FAQs publication.*

*Reference: Centers for Disease Control and Prevention, New York State Department of Health, New York State Department of Agriculture and Markets*