



FAQ's: Eastern Equine Encephalitis Virus (EEEV)

What is EEE virus?

Eastern equine encephalitis virus (EEEV) is an extremely rare but serious and often fatal infection that causes encephalitis or inflammation of the brain. It is spread by the bite of a mosquito infected with EEEEV. EEEEV can also infect a wide range of animals including mammals, birds, reptiles, and amphibians. The spread of EEEEV to mammals (including humans and horses) occurs through the bite of infected mosquitoes that feed on both birds and mammals.

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.

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 does EEEv spread?

EEEV lives in birds, but it is only passed to humans through mosquito bites. EEEV is maintained through a natural cycle between the Culiseta melanura mosquitoes and birds. The spread of EEEV to mammals (including humans and horses) occurs through the bite of certain infected mosquito species that feed on both birds and mammals. EEE is only spread to humans through the bite of an infected mosquito. EEE is not spread person-to-person, people to animals, or animals to people. Only about 4 species of mosquitoes in New York State have been found to be carriers of the virus.

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

It is possible that some people who are infected with EEEV will not develop any symptoms. Symptoms of EEEV infection typically appear 4-10 days after being bitten by an infected mosquito. What are the symptoms of eastern equine encephalitis and when do they appear?

The type of symptoms usually depend on the age of the person. People over age 50 and younger than age 15 are at greatest risk for developing severe disease. Severe cases of EEE infection begin with the sudden onset of headache, high fever, chills, and vomiting that may progress into disorientation, seizures, encephalitis (inflammation of the brain), and coma. Approximately a third of patients who develop EEE die, and many of those who survive have mild to severe brain damage.

How is EEE diagnosed?

Health care providers diagnose EEE based on the patient's clinical symptoms and laboratory diagnosis by testing blood or spinal fluids, which will show if the virus or antibodies against the virus are present in the person.

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 by applying personal protection measures:

- 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.

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 may temporarily reduce the numbers of mosquitoes for a short amount of time (about 1-2 weeks). 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 1-2 weeks. Spraying does not eliminate the need for people to protect themselves with preventive and personal protection measures.

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 closeness 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 preventive and personal protection measures.

Where are mosquito traps located in Madison County?

Madison County uses several locations in the northern part of Madison County in the Town of Sullivan 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
- www.nyhealth.gov
- www.cdc.gov

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