



Eastern Equine Encephalitis (EEE)

What is Eastern Equine Encephalitis?

Eastern Equine Encephalitis (EEE), sometimes called sleeping sickness or Triple E, is a rare but serious viral disease spread by infected mosquitoes.

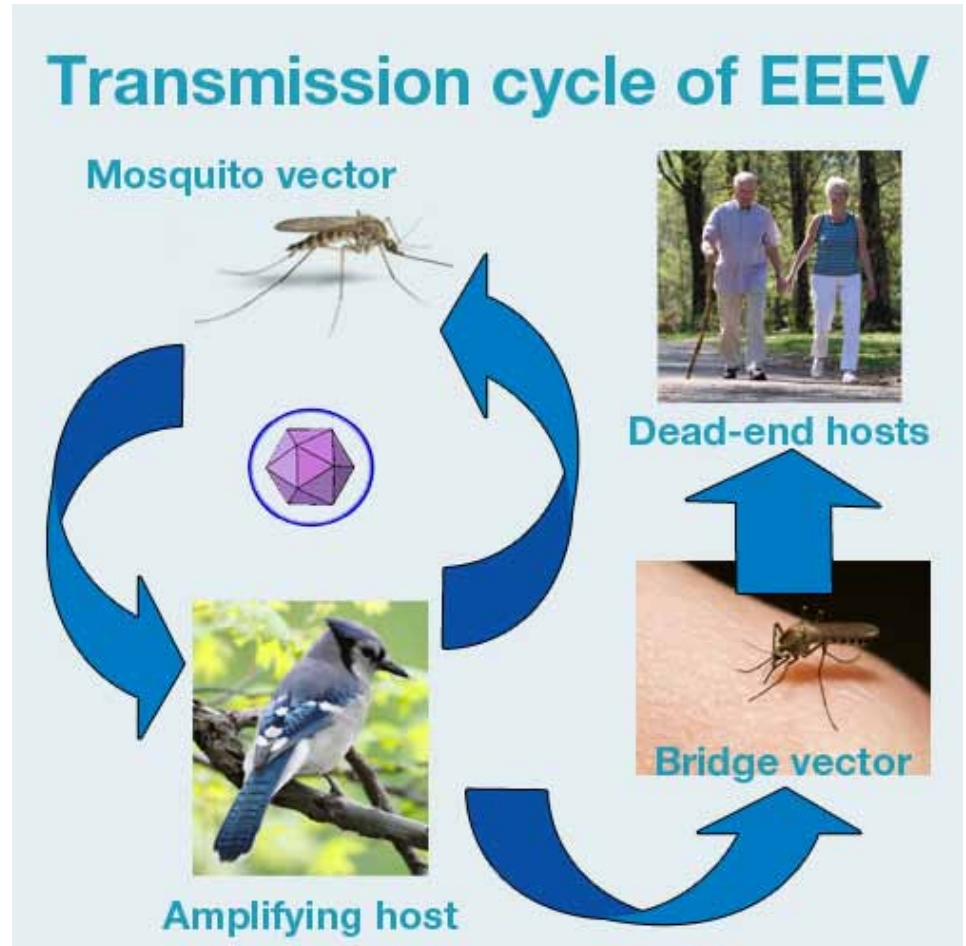
How is Eastern equine encephalitis transmitted?

The Eastern equine encephalitis virus (EEEV) can infect a wide range of hosts including mammals, birds, reptiles and amphibians. Infection occurs through the bite of an infected mosquito.

The virus itself is maintained in nature through a cycle between *Culiseta melanura* mosquitoes and birds. *Culiseta melanura* mosquitoes feed almost exclusively on birds, so they are not considered an important vector of EEEV to humans or other mammals.

Transmission of EEEV to humans requires mosquito species capable of creating a "bridge" between infected birds and uninfected mammals. Other species of mosquitoes (including *Coquiletidia perturbans*, *Aedes vexans*, *Ochlerotatus sollicitans* and *Oc. Canadensis*) become infected when they feed on infected birds. These infected mosquitoes will then occasionally feed on horses, humans and other mammals, transmitting the virus. However, humans, horses and other infected mammals do not circulate enough of the EEE virus within their blood to infect additional mosquitoes, so they are considered 'dead-end hosts'.

Transmission is most common around freshwater, hardwood swamps and coastal plains including the Great Lakes region as well as the Atlantic and Gulf



Coast states. In Ontario, EEEV has been found in horses that reside in the province or that have become infected while travelling.

Similar to West Nile virus (WNV), the amount of virus found in nature increases throughout the summer as more birds and mosquitoes become infected.

Who is at risk of becoming infected with Eastern Equine Encephalitis?

People who live in or visit woodland habitats and people who work outside or par-

ticipate in outdoor recreational activities have the highest risk of developing EEE because of greater exposure to potentially infected mosquitoes.

People of all ages are at risk for infection with the EEE virus but individuals over age 50, and younger than age 15, are at greatest risk for developing severe disease.

What are the symptoms of Eastern Equine Encephalitis?

Infection with EEE can cause a range of illnesses. Some people bitten by an infected mosquito will not develop any symptoms;

others get only a mild flu-like illness with fever, headache, and fatigue.

In rare cases, infection of the central nervous system occurs, causing sudden fever, muscle pains and a headache of increasing severity, often followed quickly by seizures and coma. Inflammation and swelling of the brain, called encephalitis, is the most dangerous complication.

Approximately 33 per cent of people who develop EEE will die from the disease. Many of those who survive suffer significant brain damage and will have mild to severe disabilities.

When do symptoms appear?

The incubation period (the amount of time before symptoms appear) is between 5-15 days after the bite of an infected mosquito.

What is the treatment for Eastern Equine Encephalitis?

There is no specific treatment for EEE. Treatment focuses on supportive therapy to lower fever and ease the pressure on the brain and spinal cord.

What can be done to prevent Eastern Equine Encephalitis?

There is no human vaccine for EEE. Similar to West Nile virus, the best way to protect yourself from EEEv is to keep mosquitoes from biting you. Horses can and should be vaccinated against EEEv and WNV.

To reduce the risk of being bitten by mosquitoes:

- Avoid areas with high mosquito populations.



- Wear light-coloured clothing, including long sleeves, pants and a hat, to cover exposed skin.
- Use mosquito repellent containing DEET. Make sure to follow the product's instructions.
- Make sure all windows and doors in your home have screens that are in good condition.
- Take extra precaution from dusk to dawn when mosquito activity is higher.

The best way to keep mosquitoes away from your home is to clean up breeding areas:

- Drain areas of any standing or stagnant water on your property.
- Remove old tires, and turn over pails, toys and wheelbarrows.
- Frequently change the water in water troughs and bird baths, at least weekly.
- Keep eaves clear to avoid trapped water.



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