

BACKGROUND

Eastern Equine Encephalitis (EEE) is a rare but serious disease caused by a virus. Only a few cases are reported in the United States each year. Most occur in eastern or Gulf Coast states. Approximately 30% of people with EEE die and many survivors have ongoing neurologic problems.

WHO DOES THE ISSUE IMPACT?

Everyone! EEE is spread to people by infected mosquitoes. Most cases of EEE have been reported from Massachusetts, Michigan, Florida, Georgia, New York, and North Carolina. EEE transmission is most common in and around freshwater hardwood swamps in the Atlantic and Gulf Coast states and the Great Lakes region. All residents of and visitors to areas where EEE activity has been identified are at risk of infection. People who engage in outdoor work and recreational activities in endemic areas are at increased risk of infection.

COMPLICATIONS

Approximately a third of all people with encephalitis due to EEE infection die. Death usually occurs two to ten days after onset of symptoms but can occur much later. Of those who recover, many are left with physical or mental damage, which can range from mild brain dysfunction to severe intellectual impairment, personality disorders, seizures, paralysis, and cranial nerve dysfunction. Many patients with severe effects require long-term care and die within a few years.

SIGNS AND SYMPTOMS

The first symptoms of EEE are high fever (103° to 106°F), stiff neck, headache, and lack of energy. These symptoms show up three to ten days after someone is bitten by an infected mosquito. Inflammation and swelling of the brain, called encephalitis, can develop. The disease gets worse quickly and some patients may go into a coma within a week.

CAUSES AND TRANSMISSION

The virus infects birds that live in freshwater swamps and is spread from bird to bird by infected mosquitoes. If a mosquito infected with the virus bites a horse or human, the animal or person can become sick.

TESTS AND DIAGNOSIS

A definitive diagnosis of EEE disease requires that specimens be collected for laboratory diagnosis. Blood or spinal fluid can be sent to a laboratory and examined for genetic evidence of the virus, to isolate the virus in culture, or to test for the body's immune response to the infection (antibody testing).

TREATMENTS

There is no cure for EEE, and three of every ten people who get the disease die from it. All health care providers treat the symptoms of infection by lowering the patient's fever and easing the pressure on the brain. Aspirin should be avoided. Hospitalization is often necessary. Some people who survive this disease will be permanently disabled. Few people recover completely.

WHAT CAN YOU DO?

To prevent EEE:

- Use EPA approved insect repellent
- Wear long-sleeved shirts and long pants to cover your skin
- Treat your clothing and gear with an insecticide

- Take steps to control mosquitoes indoors and outdoors by:
 - Maintaining good screens on windows and doors to keep infected mosquitoes out.
 - Regularly emptying any outside containers, or drill drainage holes in their bottoms.
 - Turning over plastic wading pools and wheelbarrows when not in use.
 - Cleaning clogged roof gutters that may allow the pooling of rain water.
 - Not allowing water to stagnate in bird baths or ornamental ponds.
 - Cleaning and chlorinating swimming pools and removing standing water from pool covers.
 - Using landscaping to eliminate standing water that routinely collects on your property.
 - Removing discarded tires from your property as they make an excellent larva habitat.
 - Using *Bacillus thuringiensis israelensis* (Bti) or *Bacillus sphaericus* (Bsp) tablets for standing water that can't be eliminated; available at any lawn and garden store. The bacteria will infect and kill any mosquito larvae present, but the water will remain safe for people, pets, aquatic life, and plants.

If you or a family member might have EEE:

- Talk with your health care provider immediately

RESOURCES FOR MORE INFORMATION

PA DOH Vectorborne Disease webpage: [Vectorborne Diseases](#)

CDC WNV website: <https://www.cdc.gov/easternequineencephalitis/index.html>

This fact sheet provides general information. Please contact your physician for specific clinical information.

If you have any questions, contact us at 1-877-PA-HEALTH.

