

PUBLIC HEALTH FACT SHEET

Eastern Equine Encephalitis

Massachusetts Department of Public Health, 305 South Street, Jamaica Plain, MA 02130

What is Eastern Equine Encephalitis?

Eastern Equine Encephalitis (EEE) is a rare but serious disease caused by a virus. The virus grows in birds that live in freshwater swamps, and it is usually found only in these birds and in mosquitoes that do not bite people. Sometimes the virus gets picked up by other kinds of mosquitoes that bite horses and people. The risk of getting EEE is highest from late July through September. The virus is spread by adult mosquitoes, which are killed by frost in the fall.

What are the symptoms of EEE?

The first symptoms of EEE are high fever (103° to 106°F), stiff neck, headache, and lack of energy. These symptoms show up two to ten days after infection. Swelling of the brain, called encephalitis, is the most dangerous symptom. The disease gets worse quickly, and many patients go into a coma within a week.

What is the treatment for EEE?

There is no cure for EEE, and three of every ten people who get the disease die from it. All doctors can do is lower the fever and ease the pressure on the brain and spinal cord. Some people who survive this disease will be permanently disabled. Very few people recover completely.

How is EEE spread?

EEE is spread only by mosquitoes. People and horses that have EEE cannot spread the disease.

How common is EEE in Massachusetts?

EEE is so rare that fewer than 80 people in this state have had it since it was first described in 1938. Fewer than 50 cases have occurred since 1940. Most cases have been in Plymouth and Norfolk counties, with a few in Middlesex, Bristol, Suffolk, Barnstable, and Essex counties.

What can you do to protect yourself?

There is an EEE vaccine for horses, but not for people. The best way to protect yourself is to keep mosquitoes from biting you. Follow these steps every summer to reduce your risk of being bitten by mosquitoes.

- If you must be outdoors at dusk or dawn, when mosquitoes that carry EEE are most active, wear a long-sleeved shirt and long pants. Use a mosquito repellent that contains DEET (the chemical N-N-diethyl-meta-toluamide) and follow the directions on the label. DEET can be poisonous if overused. Never use DEET on infants and do not apply repellents to the face or hands of children. Avoid using repellents with DEET concentrations above 10-15% for children and with concentrations above 30-35% for adults. Cream, lotion or stick formulas are best for use on skin. Avoid products with high amounts of alcohol because these may be absorbed through the skin.

- Take special care to cover up the arms and legs of children playing outdoors. When you bring a baby outdoors, cover the baby's carriage or playpen with mosquito netting.
- Repair any holes in your screens and make sure they are tightly attached to all your doors and windows.
- Mosquitoes can breed in water that collects in ditches, clogged gutters, old tires, wheelbarrows, and wading pools. Don't let stagnant water collect around your home.

What does the state do to protect people from EEE?

Mosquito traps are set up all over eastern Massachusetts. Every year from May until the first frost, MDPH field staff collect mosquitoes and bring them to the State Laboratory for testing. If the lab finds EEE virus in mosquitoes, MDPH will warn local boards of health, hospitals, and people who live in the affected area. Because EEE is so rare, many doctors have never seen a case. If a doctor thinks a patient has EEE, MDPH will run a blood test to be sure.

For more information:

- **Massachusetts Department of Public Health**
Division of Epidemiology and Immunization (617) 983-6800 (consultation for doctors and hospitals regarding EEE symptoms and testing) or on the MDPH website at <http://www.state.ma.us/dph>.
- **Bureau of Environmental Health Assessment** (617) 624-5757 (health effects of pesticides)
- **Massachusetts Poison Control Center** (concerning adverse reactions to pesticides)
(617) 232-2120 (Boston) or 1-800-682-9211 (other areas in Massachusetts) or 1-888-244-5313 (hearing impaired)
- **Massachusetts Department of Food and Agriculture**
State Reclamation and Mosquito Control Board (617) 626-1781 (regional mosquito control programs)
- **Bureau of Animal Health** (617) 626-1741 (horse vaccine)
- Mosquito Control Districts
 - Cape Cod (508) 775-1510
 - East Middlesex (781) 899-5730
 - Plymouth (781) 585-5450
 - Bristol (508) 823-5253
 - Norfolk (781) 762-3681
 - Suffolk County (617) 361-0550
 - North East Management (Essex County) (978) 474-4640
 - Central Massachusetts (508) 393-3055
 - Berkshire (413) 447-9808
- Your local board of health
(listed in the telephone directory under "government")

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