

MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM



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****ADVISORY – Important Information****

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TO: Veterinarians; Hospitals; Infection Control Practitioners; Public Health-Required, RRCs, Public Health Nursing, EMS, Local Health Officers, Fire Departments, Academic, Childcare, Laboratory, Healthcare.

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SUBJECT: Eastern Equine Encephalitis: Update for Maine Clinicians, September, 2008

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Maine Center for Disease Control and Prevention (Maine CDC)
(Formerly Bureau of Health)

Eastern Equine Encephalitis: Update for Maine Clinicians, September, 2008

A horse has recently died and tested positive for Eastern Equine Encephalitis (EEE) in Lebanon, in York County, Maine. An emu also recently tested positive in nearby Barnstead, NH. Because there is a risk of human transmission of EEE from infected mosquitoes to people in the area of positive animals, Maine CDC within the Maine Department of Health and Human Services and the Maine Department of Agriculture are alerting physicians, veterinarians, and other health care providers of this EEE activity, and providing laboratory testing criteria and guidelines. For further questions or concerns, please contact Maine CDC for the medical epidemiologist on call at: 1-800-821-5821.

Human Clinical Features

Symptoms of EEE usually appear 4 to 10 days after the bite of an infected mosquito, and range from mild flu-like illness to encephalitis, coma, and death. The EEE case fatality rate is about 35%-50%. It is estimated that 35% of people who survive EEE will have mild to severe neurological deficits.

Risk Groups

The enzootic transmission cycle is most common in coastal areas and freshwater swamps. Human cases occur relatively infrequently, largely because the primary transmission cycle takes place in swamp areas where human populations tend to be limited. Those people at most risk are:

- Residents of and visitors to endemic areas
- People who engage in outdoor work and recreational activities
- Persons over age 50 and younger than age 15 seem to be at greatest risk for developing severe disease

Diagnostic Tests for EEE Infection

Clinical Suspicion: EEE infection can be suspected in a person based on clinical symptoms and patient history. Diagnosis relies on a high index of suspicion and on results of specific laboratory tests. EEE or other arboviral infections should be seriously considered in any individual – but especially those over age 50 or younger than age 15 - who has onset of unexplained encephalitis or meningitis in the late summer or early fall.

The local presence of EEE enzootic activity should further raise the index of suspicion.

Laboratory Tests: Laboratory testing is required for a confirmed diagnosis. The most efficient diagnostic methods are:

- Detection of IgM antibody to EEE in serum collected 3-10 days after onset of illness (note: if a specimen collected less than 10 days after onset of illness is negative, a convalescent serum should be collected and tested for IgM antibody 2-3 weeks after the first collection date).

- Detection of IgM antibody to EEE in CSF collected within 8 days of illness onset (for persons with neuroinvasive disease).

Because some other arboviral infections can cause indistinguishable clinical presentations, public health testing for EEE infection in Maine is accompanied by testing for West Nile virus (WNV) and St. Louis Encephalitis (SLE) virus infections. Confirmatory testing of IgM ELISA – positive a specimen is performed using the plaque-reduction neutralization test (PRNT) at the US Centers for Disease Control and Prevention. The PRNT is useful in ruling out possible false positive results and in distinguishing cross-reactions that can occur between different arboviral infections.

Diagnostic testing of serum and cerebrospinal fluid for EEE infection (and related arboviral infections) is available free of charge through the Maine CDC's Health and Environmental Testing Laboratory. **Maine CDC requests that all specimens for arboviral testing be submitted to Maine CDC's Health and Environmental Testing Laboratory (HETL), rather than commercial laboratories.** For information on obtaining and submitting specimens for diagnostic testing call 1-800-821-5821 or go to: <http://www.maine.gov/dhhs/boh/ddc/arbovirus/>.

Prevention

When people are outdoors and it is warmer than 60 degrees, wearing long sleeves and pants as well as applying a DEET-containing insect repellent can reduce the risk of mosquito bites.

Horse owners are urged to vaccinate their horses against EEE annually.

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Maine CDC Arbovirus Website

<http://www.maine.gov/dhhs/boh/ddc/arbovirus/index.htm>

US CDC EEE Website

<http://www.cdc.gov/ncidod/dvbid/arbor/eeefact.htm>

Maine Department of Agriculture Animal Health Website

<http://www.maine.gov/agriculture/ahi/index.html>