

MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM



*Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention (Maine CDC)
(Formerly Bureau of Health)
11 State House Station
Augusta, Maine 04333-0011
Phone 1-800-821-5821 / Fax 207-287-7443*

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

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TO: Academic, Animal Care, Epidemiologists, HETL, City and County Health Departments, All Healthcare, Lab Facilities, County EMA, Maine Medical Association, Public Health, EMS Regional Coordinators, Regional Resource Centers

FROM: Dr. Sheila Pinette, Maine CDC Director
Dr. Stephen Sears, State Epidemiologist

SUBJECT: **Human Arbovirus Update for Healthcare Providers**

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Human Arbovirus Update for Healthcare Providers in Maine, 2012

There has been significant increase in regional arboviral activity in the last month. Arboviral diseases, including Eastern equine encephalitis (EEE) and West Nile virus (WNV), are very serious infections that are transmitted by the bite of an infected mosquito. Although rare, these diseases have potentially severe and even fatal consequences for those who contract them. The purpose of this health advisory is to alert clinicians to the potential for human disease activity in Maine, and to consider testing for arboviral disease in patients presenting with unexplained encephalitis, meningitis or high fever ($\geq 100.4^{\circ}\text{F}$ or 38°C) during the late summer and early fall.

Background

EEE and WNV were first detected in Maine in 2001 in birds. In 2009 Maine experienced unprecedented EEE activity with 19 animals and 2 mosquito pools testing positive. In the fall of 2008 a man vacationing in Cumberland County died of the disease. It is unclear where he contracted the infection. In 2010, Maine had a single EEE positive turkey in Penobscot County, and a mosquito pool in York County tested positive for WNV. In 2011, Maine had did not report any arboviral activity. Regionally, New York, Connecticut, Massachusetts, and New Hampshire have reported WNV activity in mosquitoes within the last month. Massachusetts has also reported EEE activity in mosquitoes in 2012. New York City reported its first case of human WNV for 2012 in July.

Clinical Features of Mosquito-borne Infections

EEE: EEE is considered to be the most severe arboviral infection found in the United States. Symptoms of EEE usually appear 4 to 10 days after the bite of an infected mosquito, and range from mild flu-like illness to high fever, encephalitis, coma, and death. The EEE case fatality rate is approximately 35%-50%. It is estimated that 35% of people who survive EEE will have residual neurological deficits.

WNV: Symptoms of WNV infection usually appear 3 to 15 days following the bite of an infected mosquito. Most people infected with WNV are asymptomatic. Symptoms can range from a mild flu-like illness to headache, high fever, neck stiffness, altered mental status, convulsions, paralysis, coma, and sometimes death.

Risk Groups

EEE and WNV infect many more people than are recognized because many people remain asymptomatic. Diagnosed cases tend to exhibit more severe illness. The following groups of people are at higher risk for clinically significant arboviral infection:

- Residents of and visitors to areas with mosquito activity
- People who engage in outdoor work and recreational activities
- Persons over age 50 and younger than age 15

Diagnostic Tests for Arboviral Infections

Diagnosis relies on a high index of suspicion and on results of specific laboratory tests. EEE, WNV, or other arboviral infections should be considered in any individual – but especially those over age 50 or younger than age 15 – who has onset of unexplained encephalitis, meningitis, or high fever in the summer and fall. The local presence of EEE and WNV in animals and mosquito pools should further raise the index of suspicion.

If arboviral infection is suspected based on clinical evidence, serum samples and CSF (if available) should be submitted for arboviral testing. All samples of CSF should be accompanied by a serum sample. Ideally an acute and a convalescent serum sample should be submitted for each patient.

- Acute serum samples should be collected within 14 days of onset of symptoms
- Convalescent serum samples should be collected 10 days to 4 weeks following the acute specimen