



KATHY HOCHUL
Governor

Department of Health

JAMES V. McDONALD, M.D., M.P.H.
Commissioner

JOHANNE E. MORNE, M.S.
Executive Deputy Commissioner

September 10, 2024

TO: Healthcare Providers, Hospitals, and Local Health Departments (LHDs)

**FROM: New York State Department of Health (NYSDOH)
Bureau of Communicable Disease Control (BCDC)**

**HEALTH ADVISORY: REPORTING AND TESTING OF
SUSPECTED HUMAN CASES OF EASTERN EQUINE
ENCEPHALITIS**

Please distribute to the Infection Control Department, Emergency Department, Infectious Disease Department, Director of Nursing, Medical Director, Laboratory Service, and all patient care areas.

NYSDOH is reminding healthcare providers of the procedures for testing and reporting of the mosquito-borne illness eastern equine encephalitis (EEE) in light of increased risk of transmission to humans from infected mosquitoes.

SUMMARY

- Current arboviral surveillance across New York State (NYS) and other northeast states shows an above-normal level of EEE activity in mosquitoes and horses, indicating an increased risk of transmission to humans from infected mosquitoes.
 - In NYS, as of August 31, 2024, 20 mosquito pools¹ in 2 counties (Onondaga and Oswego) and 16 horses in 10 counties (Cayuga, Clinton, Franklin, Madison, Oneida, Orange, Saint Lawrence, Ulster, Washington, and Wayne) have tested positive for EEE. In addition, 2 emus infected with EEE have been identified (Rensselaer County).
 - Although there have been no human EEE cases identified in NYS to date this year, Vermont, Massachusetts, New Jersey, and New Hampshire have each reported cases of EEE this season.
- Healthcare providers should consider mosquito-borne infections in the differential diagnosis of any patient with clinical evidence of viral encephalitis or viral meningitis, especially in counties where EEE has been identified.
- All cases of suspected arboviral infection should be reported immediately to the local health department (LHD) of the county where the patient resides. The LHD can then assist with testing requests for EEE at Wadsworth.
- Providers should educate individuals at risk of exposure to mosquitoes by recommending precautions to reduce risk of infection from EEE and other mosquito-borne illnesses. Anyone who spends time outdoors during mosquito season might be at risk; one's risk increases as their exposure to mosquitos increases.

¹ Mosquitoes collected by county surveillance staff are grouped into one or more "pools" of specimens based on date, location, and species. A positive pool refers to one in which at least one specimen was positive for a given pathogen.

- The current heightened risk for EEE will continue in NYS until the adult mosquito season ends with hard frosts in the fall.

BACKGROUND

Domestic mosquito-borne diseases, such as EEE, continue to occur annually in NYS. EEE is a rare but extremely serious viral disease spread by infected mosquitoes that can affect people and other animals, most commonly horses. People of all ages are susceptible to infection, but people over 50 and younger than 15 are at greatest risk of acquiring the virus. While most people bitten by an infected mosquito will not develop any symptoms, severe cases may begin with the sudden onset of headache, high fever, chills, and vomiting. The illness may then progress into disorientation, seizures, encephalitis, and coma. Approximately a third of patients who develop EEE die, and many patients who survive EEE experience neurologic impairment. There is no commercially available human vaccine for EEE, and the best protection is to prevent mosquito bites.

Current arboviral surveillance across many northeast states shows an above-normal level of EEE activity in mosquitoes and horses, indicating an increased risk of transmission to humans from infected mosquitoes. In NYS, as of August 31, 2024, 20 mosquito pools in 2 counties (Onondaga and Oswego) and 16 horses in 10 counties (Cayuga, Clinton, Franklin, Madison, Oneida, Orange, Saint Lawrence, Ulster, Washington, and Wayne) have tested positive for EEE. In addition, 2 emus infected with EEE have been identified (Rensselaer County).

The last confirmed human cases of EEE in NYS were reported in 2015 in Onondaga (2 cases) and Oswego (1 case) counties. Although there have been no human EEE cases identified in NYS to date in 2024, Vermont, Massachusetts, New Jersey, and New Hampshire have each reported human cases of EEE this season.

REPORTING CASES OF EASTERN EQUINE ENCEPHALITIS

Healthcare providers should consider mosquito-borne infections in the differential diagnosis of any patient with clinical evidence of viral encephalitis or viral meningitis, especially in counties where EEE has been identified. Under NYS Public Health Law 2102 and 10 NYCRR 2.10, health care providers must **immediately report** by telephone any patient with suspected arboviral infections. The report should be made to the LHD of the patient's county of residence.

SPECIMEN COLLECTION AND REFERRAL FOR TESTING

Commercial laboratory testing for EEE is limited. The NYSDOH's Wadsworth Center laboratories offer testing for domestic mosquito-borne viruses, including EEE. Cerebrospinal fluid (CSF) and serum testing by polymerase chain reaction (PCR) is more sensitive early in infection, while serologic testing for antibody will better detect cases that are beyond the viremic phase. Therefore, ideally, **BOTH** CSF and acute/convalescent serum specimens should be submitted for testing when neuroinvasive disease is suspected. Otherwise, acute and convalescent serum specimens can be used for diagnosis. Convalescent specimens should be drawn at least 3 weeks after acute specimens. Instructions on the collection and submission of clinical specimens can be found at

<http://www.wadsworth.org/programs/id/virology/services/arbovirus-testing>.

The Wadsworth Center is requesting that in addition to serum (and CSF if there is neurologic involvement), urine and whole blood should also be sent to improve the opportunity for detection

and identification of suspected arboviral infections if submitting samples to Wadsworth for testing. Required specimen volumes, storage, and shipping for virologic testing:

- CSF: > 1.5 mL requested for PCR and serology, minimum 300 µL for PCR only, stored frozen and shipped on dry ice, minimum 300 µL for serology only
 - Serum: SST spun and aliquoted, > 2.5 mL requested for PCR and serology, minimum 1000 µL for PCR only, minimum 500 µL for serology only
 - Urine: > 2.5 mL requested for PCR only, minimum 1000 µL, no preservative
 - Whole blood: > 0.5 mL requested for PCR only, minimum 200 µL
- Serum, urine, and whole blood should be stored cold and shipped on cold packs but may be shipped frozen on dry ice with or without CSF.

Information about Online Test Requests for testing at the Wadsworth Center, supporting information, and Report Access can be found here:

<https://www.wadsworth.org/programs/id/electronic-test-request-reporting-new>.

In all cases where clinicians are seeking testing through Wadsworth Center, it is imperative that specimens be sent to Wadsworth Center only after consultation with the LHD of the patient's county of residence or with the NYSDOH Bureau of Communicable Disease Control (BCDC).

TREATMENT

There is no specific treatment for EEE. Treatment focuses on supportive therapy, including hospitalization, respiratory support, intravenous fluids, and prevention of other infections.

PREVENTION

Anyone who spends time outdoors during mosquito season might be at risk; one's risk increases as their exposure to mosquitos increases. Providers are encouraged to educate individuals at risk of exposure to mosquitoes by recommending the following precautions to reduce risk of infection from EEE and other mosquito-borne illnesses:

- Consider wearing long sleeves and tucking pants into socks and shirts into pants when outdoors at dusk or dawn, the time of day when mosquitoes are most active.
- Use insect repellents containing DEET. More information on repellents can be found [here](#). Be sure to follow the insect repellent label directions. Children should not handle repellents directly. Instead, adults should apply repellents to their own hands first and then gently spread on the child's exposed skin. Avoid applying directly to children's hands. After returning indoors, wash your child's treated skin and clothing with soap and water or give the child a bath.
- Make sure there are screens in windows and doors of the home. Make sure the screens are free of rips, tears, and holes.
- Eliminate all standing water in yards and around the home and property where mosquitoes can breed, including plastic containers, pool covers, wading pools, ceramic pots, clogged drainpipes, and wheelbarrows. Also change water in bird baths twice a week.

If you have any questions regarding this information, please contact your LHD or the NYSDOH Bureau of Communicable Disease Control at (518) 473-4439 or via email at

bcdc@health.ny.gov. Contact information for LHDs is available at

https://www.health.ny.gov/contact/contact_information/