

# EASTERN EQUINE ENCEPHALITIS

## Mosquito-borne disease information sheet



Eastern Equine Encephalitis Virus (EEEV) belongs to the virus family Togaviridae and was first identified in an infected horse in 1831; it wasn't until 1938 that a human case was discovered. Out of all the mosquito-borne encephalitis viruses in the U.S., EEEV is considered the most pathogenic, causing high morbidity and mortality. Although rare, approximately 1 in 10,000 people are infected each year, with a fatality rate of at least 33% of cases. Children and the elderly are extremely susceptible to the infection with mortality rates in clinical cases exceeding 50%.

EEEV is transmitted by the enzootic vector, *Culiseta melanura*, which occurs in swamps throughout the eastern U.S. *Culiseta melanura* female mosquitoes are highly efficient vectors at transmitting the virus among passeriform birds, especially those nesting in swamps. Epidemics in the U.S. have usually involved horses, birds, and humans.

## DISEASE TRANSMISSION

- *Culiseta melanura* is the primary vector, while *Aedes sollicitans* and *Coquillettidia perturbans* can serve as bridge vectors.
- EEEV cases typically peak during late summer and early fall.
- Though horses are a natural host, 4-38 human cases have been reported each year since 2011.
- Alpacas, llamas, emus, ostriches, and a few other animals are also susceptible.



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EEEV DATA SCAN HERE



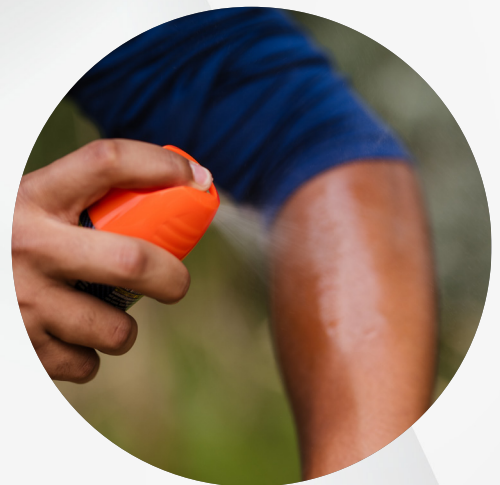
## SIGNS AND SYMPTOMS

- In humans, sickness typically occurs 4-10 days after infection, often manifesting as flu-like symptoms and include vomiting, high fever, and drowsiness.
- In roughly 5% of human cases, inflammation of the brain and spinal cord may cause seizures, coma, and death. Survivors may have permanent brain damage.
- Vaccinations are available to horses, but no vaccines or antiviral drugs exist for humans.



## TIPS TO REDUCE YOUR RISK OF INFECTION

- Use insect repellent.
- Be aware of peak mosquito biting and feeding hours. *Culiseta melanura* feed early morning or early evening.
- Wear clothing to protect yourself.
- Empty standing water.
- Install and repair window screens.



## HOW VDCI CAN HELP

VDCI offers comprehensive services that support government entities and businesses with education and reducing the risk of mosquito-borne disease. Visit [vdc.net](http://vdc.net) for more details on Integrated Mosquito Management (IMM) programs.



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Contact our experts at [admin@vdc.net](mailto:admin@vdc.net) or call **866.403.4111** so that they can help you develop a custom IMM program to meet your workplace's needs.