

Mosquito-borne Eastern Equine Encephalitis and West Nile Virus Transmission

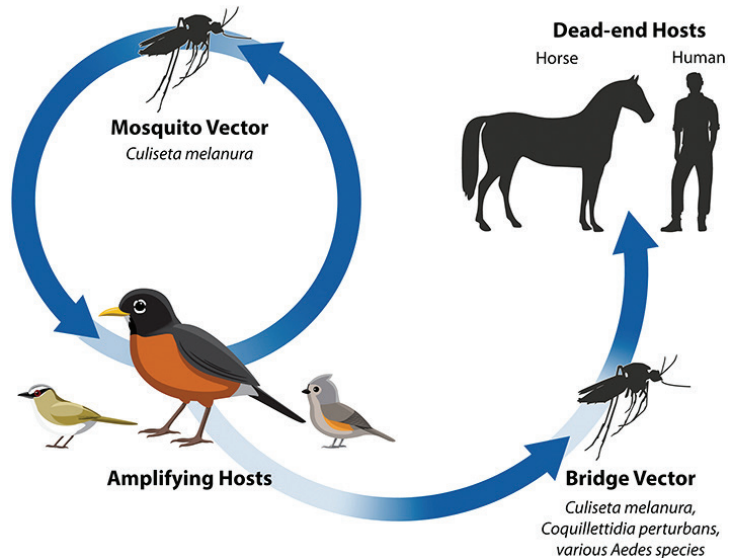
Eastern equine encephalitis virus (EEEV) and West Nile virus (WNV) are viruses that are transmitted to humans by an infected mosquito. Horses can also be infected. These diseases are not spread from person to person and horses cannot spread the diseases. Horses should be vaccinated against both EEEV and WNV every six months. Horse owners should contact their local veterinarian to schedule a vaccination. There are no commercially available vaccines for humans, so mosquito avoidance is key to prevention.

Sentinel chicken flocks are often used to identify mosquito-borne virus activity in a community/area.

- Chickens are placed in pens and blood samples are taken to check for antibodies to indicate EEE and WNV activity.
- Chickens are a "dead-end host," just like people and horses. They can catch the diseases, but the virus is unable to replicate enough in the bloodstream to be passed along.
- Unlike people and horses, chickens do not have symptoms or get sick when infected.
- Local and public health officials use sentinel chicken surveillance information to educate residents about mosquito bite prevention and mosquito control activities.

Avoid Mosquito Bites

- Use insect repellents.
- Wear long sleeves and long pants when possible.
- Wear loose-fitting, light-colored clothes.
- Treat clothing with repellents.
- Use air conditioning or screens on windows and doors.
- Minimize outdoor time at dawn and dusk when mosquitoes are most active.



Eastern Equine Encephalitis Transmission

The Eastern equine encephalitis virus **cycles between mosquitoes and birds**. The *Culiseta melanura* mosquito, which primarily bites birds, is responsible for spreading the virus among birds. The virus then multiplies in the birds' bloodstream.

People and other animals, like horses, become infected with the virus when mosquito species that feed on many kinds of animals, feed on infected birds and then bite people. People and horses are considered **dead-end hosts** because unlike birds, they don't develop high levels of virus in their bloodstream and cannot pass the virus on to other biting mosquitoes.

Mosquito Control

- Mosquito control agencies or local municipal and county government track both nuisance mosquitoes and mosquitoes that can spread viruses. Spraying larvicides and adulticides, according to label instructions, is one way to kill mosquito larvae or adult mosquitoes in an area. This is especially important when people in the community are getting sick from mosquito bites.
- EEEV and WNV are spread by mosquitoes that may fly in from swamplands, marshlands, and flooded woodlands. These areas may be protected and are often too large to treat effectively. It is important to understand that spraying activities are meant to reduce the population of adult mosquitoes in your community and thus reduce the number of mosquitoes that can spread viruses, but spraying will not eliminate all mosquitoes. Personal protection and mosquito avoidance are key.

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