Eastern Equine Encephalitis & West Nile Virus

Eastern equine encephalitis (EEE) is a rare but serious viral disease that is also caused by a virus transmitted by the bite of an infected mosquito with more severe symptoms than for WNV. EEE is an arbovirus (short for arthropod-borne, meaning spread by insects). Birds are the source of infection for mosquitoes, which can sometimes transmit the infection to horses, other animals, and, in rare cases, people.

West Nile Virus (WNV) was first seen in the US in 1999, in the New York City area of Queens. WNV can live in a number of types of birds and is passed bird to bird by certain types of mosquitoes. Occasionally, an infected mosquito will pass the virus to humans or other animals. Most healthy people do not get sick from the virus, but sometimes it may cause symptoms. When a human gets ill from WNV, they may have symptoms including encephalitis (inflammation of the brain) or meningitis (inflammation of the lining of the brain and spinal cord); encephalitis and meningitis can also be caused by head injury, bacterial infections or, more commonly, other viral infections.

The Spread of EEE & WNV

EEE and WNV are spread to humans by the bite of an infected mosquito. When a mosquito bites an infected bird, it becomes infected. The infected mosquito could then bite a human and transmit the infection. Infected mosquitoes are the primary known source for WNV and EEE transmission to humans. These viruses are not spread by person-to-person contact such as touching, kissing, or caring for someone who is infected. No known transmission has occurred from birds to people, however, since dead birds may have the virus, one should not handle birds or any dead animals with their bare hands.

Prevention Guidelines

1. **Eliminate standing water and other mosquito breeding locations.**

   In warm weather, mosquitoes can breed in any puddle that lasts more than 4 days!

   - Remove old tires from your property.
   - Dispose of tin cans, plastic containers, ceramic pots, or other containers. Don't overlook containers that have become overgrown by aquatic vegetation.
   - Drill holes in the bottom of recycling containers that are left outside.

- Make sure roof gutters are clean and draining properly.
- Clean and chlorinate swimming pools and hot tubs. If not in use, keep empty and covered and keep covers free of standing water.
- Aerate garden ponds or stock them with fish.
- Turn over wheelbarrows and change water in birdbaths at least twice weekly.
- Turn over plastic wading pools when not in use.
- Remind or help neighbors to eliminate breeding sites on their properties.

2. **Be aware of where mosquitoes live and breed and keep them from entering your home.**

- Mosquitoes lay their eggs in standing water. Weeds, tall grass, and bushes provide an outdoor home for the adult Culex pipiens mosquito (the common northern house mosquito), which is most commonly associated with West Nile virus.
- Mosquitoes can enter homes through unscreened windows or doors, or broken screens. Make sure that doors and windows have tight-fitting screens. Repair or replace all screens in your home that have tears or holes.
- Resting mosquitoes can often be flushed from indoor resting sites by using sweeping motions under beds, behind bedside tables etc. and once in flight, exterminated prior to sleeping at night.

3. **Protect yourself from mosquito bites.**

- If outside during evening, nighttime, and dawn hours when mosquitoes are most active and likely to bite, children and adults should wear protective clothing such as long pants, long-sleeved shirts, and socks.
- Consider the use of an effective insect repellent, such as one containing DEET. Repellent containing 30% or less DEET (N,N-diethyl-methyl-meta-toluamide) are recommended for use by children and adults. Use DEET according to the manufacturer's directions. Children should not apply DEET to themselves. Repellents that contain Picaridin or oil of lemon eucalyptus have also been determined to be effective.
- Vitamin B, ultrasonic devices, incense, and bug zappers have not been shown to be effective in preventing mosquito bites.