

Arboviral Encephalitis Fact Sheet

Encephalitis is an inflammation of the brain

Encephalitis has many different causes including viruses, bacteria, parasites, and toxins. When encephalitis is caused by a virus transmitted by arthropods such as mosquitoes or ticks, it is known as arboviral (short for arthropod-borne) encephalitis.

In the U.S., arboviral encephalitis is usually caused by viruses transmitted by mosquitoes

There are four main causes of arboviral encephalitis in the U.S. These include eastern equine encephalitis, western equine encephalitis, St. Louis encephalitis, and LaCrosse encephalitis. In 1999, there was an outbreak of West Nile encephalitis in the New York area; West Nile virus is closely related to St. Louis encephalitis virus and is found commonly in Africa, Asia, and the Middle East.

These arboviruses, which are usually found in birds or small rodents, are transmitted to humans by the bite of an infected mosquito carrying the virus; they are not spread directly from human to human. Arboviral infections are most common in the summer and early fall. In Maryland, human cases of arboviral encephalitis rarely occur; there were no reported cases in the 1990's.

Most people who are infected with an arbovirus either do not get sick or have mild symptoms

For those few people who do develop symptoms, those symptoms usually begin 5 to 15 days after a bite from a mosquito carrying the virus. A small percentage of infected people develop encephalitis or meningitis (inflammation of the tissues that cover the brain and spinal cord); symptoms may include:

High fever

Disorientation

Seizures

Headache

Personality changes

Coma

Neck stiffness

Weakness or paralysis

Other brain problems

Young children and the elderly are most likely to have severe illness. There are no proven treatments for arboviral encephalitis. Most people recover from the illness, but permanent brain problems and death can occur.

Steps you can take to prevent mosquito bites and arboviral encephalitis:

Remove standing water around your home; as little as one-half inch of water will support dozens of mosquitoes. Remove or turn over buckets, bottles, and other containers; discard old tires or drill drainage holes in tires used for playground equipment; clean rain gutters; store canoes, wheelbarrows, and plastic wading pools upside down; flush birdbaths and the bottom of plant holders twice a week; remove pet food and water dishes that are not being used; adjust tarps (over pools, boats, etc.) to eliminate standing water; fix dripping faucets.

Wear clothing that covers the arms, legs, and feet whenever you are outdoors.

Use mosquito repellents sparingly on exposed skin. An effective repellent will contain 20% to 30% DEET (N,N-diethyl-meta-toluamide). Higher concentrations may cause side effects, particularly in children. Avoid applying repellents to the hands of children and do not use repellents on children under 3 years of age. Follow package instructions carefully.

Spray clothing with repellents containing permethrin or DEET as mosquitoes may bite through thin clothing.

Minimize outdoor activities at dawn, dusk, and in the early evening when mosquitoes are most active.

Inspect window and door screens and repair any holes found.