



West Nile Virus

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West Nile Virus has been making the headlines recently due to the increasing number of cases being reported and identified in the United States. However, this virus is not exactly new. In fact, West Nile Virus was first noticed in 1937 in the West Nile District of Uganda, and the first appearance in North America was back in 1999.

How is West Nile Virus Spread?

Infected mosquitoes spread West Nile Virus. Mosquitoes most commonly pick up the disease from infected birds, and go on to infect other animals while feeding on their blood. In a mosquito, the virus is found in the salivary glands, which mosquitoes use to anesthetize the skin of the animal on which they are feeding. Note: the virus cannot be spread by human-to-human contact.

West Nile Virus in Humans

In the bloodstream of humans, the virus multiplies and crosses the blood/brain barrier. When this happens, the virus can cause West Nile encephalitis, a serious condition resulting in the inflammation of brain tissue. However, it is important to note that most people who become infected have either no symptoms, or only mild symptoms. Also, if a person does contract the virus, a natural immunity is developed that is assumed to last all their life.

Prevention

While there is currently not a vaccine for West Nile Virus, the Center for Disease Control has advice for reducing risk of exposure. These include:

- Stay indoors at dawn, dusk, and in the early evening
- Wear long-sleeved shirts and long pants when outdoors
- Spray clothing with repellents containing permethrin or DEET since mosquitoes may bite through thin fabric
- Apply insect repellent to exposed skin. An effective repellent will contain 35% DEET
- Always read and follow manufacturers directions when using repellents, and avoid applying repellents to the hands of children

- Install or repair window and door screens so that mosquitoes cannot get indoors
- Vitamin B and 'ultrasonic' devices are not effective in preventing mosquitoes

Reporting

An unusual number of dead birds in an area may indicate the presence of West Nile Virus. While there are over 110 species of birds known to have been infected, the virus tends to be somewhat more lethal to crows and jays. State and local health departments are responsible for investigating reports of dead birds.

For more information on West Nile Virus, please check out the Centers for Disease Control and Prevention website at:

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

For a listing of State and Local Government Sites

http://www.cdc.gov/ncidod/dvbid/westnile/city_states.htm

For a fact sheet on using insect repellents safely, please see:

<http://www.epa.gov/opp00001/health/safely.htm>

How to use DEET safely and effectively

Summer is upon us. As outdoor recreation, sports and work activities take center stage, the need for protection from pesky insects has become uppermost in our minds.

N, N diethyl-m-toluamide (DEET) is the active ingredient in many insect repellent products. Its most significant benefit is its ability to repel potentially disease-carrying insects.

DEET was developed and patented by the U.S. Army in 1946 for use by military personnel in insect-infested areas. Because it was recognized as one of the few products effective against mosquitoes and biting flies, DEET was registered for use by the general public in 1957.

Products containing DEET are available in a variety of liquids, lotions, sprays and impregnated materials (e.g. wrist bands). Formulations registered for direct application to human skin contain from 4 to 100 percent DEET.

Health effects

After completing a comprehensive reassessment of DEET, the Environmental Protection Agency (EPA) concluded that as long as users follow label directions and take proper precautions, insect repellents containing DEET do not present a health concern.

Rashes, blisters, skin and mucous membrane irritation, and numb or burning lips have occurred among people who applied products containing a high concentration (50 or 75 percent) of DEET and among those excessively exposed. Toxic encephalopathy and seizures have been associated with use in children. Subtle insomnia, mood disturbances and impaired cognitive function in adults has been associated with excessive application.

First aid measures

Eye Contact: Flush immediately with plenty of water for at least 15 to 20 minutes. If irritation persists, get medical attention.

Ingestion: Immediately drink one to two glasses of water or milk. Contact the nearest poison control center.

Storage and handling

Store DEET in a cool, dry place with adequate ventilation.

Personal protective equipment

No special requirements exist for respiratory protection, ventilation, protective gloves or eye protection under normal conditions of use.

How to use DEET products safely:

- Read and follow all directions and precautions on the product label.
- Do not apply over cuts, wounds or irritated skin.
- Do not apply to hands or near eyes and mouth of young children.
- Do not allow young children to apply the product.
- Use just enough repellent to cover exposed skin and/or clothing.
- Do not use under clothing.
- Avoid over-application.
- After returning indoors, wash treated skin with soap and water.
- Wash treated clothing before wearing again.
- Do not spray aerosol or pump spray products in enclosed areas.
- To apply aerosol or pump spray products to face, spray on hands first and then rub on face. Do not spray directly onto face.

Enjoy your outdoor activities! Safely protect yourself from those pesky insects.

Use clothing, repellents to fight off bugs

Warmer temperatures are a sure sign that summer is on the way. And with the warmer temperatures come those pesky, nuisance insects to ruin your outdoor activities. A single acre of land can easily accommodate more than 400 million insects that can sting, bite, chew or just generally annoy us enough to want to stay indoors.

Insects such as hornets, bees and fire ants use stingers, which penetrate the skin and inject venom. Bites from mosquitoes and black flies initially cause itching, but it's the insect's saliva that's the main irritant. The saliva is highly acidic and can create swelling, welts and severe

itching. Chiggers are chewers who tear small pieces of skin and secrete a liquid that dissolves skin cells. A close encounter with chiggers will leave you with one of the most itchy and painful of all insect wounds.

There are two options to fight off these insects. The first approach is to dress in loose pants and long-sleeved shirts. Mosquito netting is also a good idea for covering the face and neck. This full-body covering keeps insects away from the skin and prevents bites or stings.

A second option is to use insect repellent. The most commonly used—and effective—repellents generally contain DEET (N, N-diethyl-m-toluamide), which was developed in 1946 by the U.S. military and made available to the public in 1957.

Although DEET works well as a repellent, it does have some shortcomings. In 1961, the *New England Journal of Medicine* reported a study on the effects of continuous exposure to DEET. The study indicated that DEET penetrated the skin and entered the bloodstream easily, and should therefore be used with caution. It found that some children generously treated with DEET for several weeks experienced seizures, convulsions and developed toxic encephalopathy. Adults, the study reported, experienced confusion, irritability, insomnia and other neurological problems when exposed to high levels of DEET.

To prevent adverse reactions, it's recommended that DEET-based products be applied sparingly or over clothing rather than directly on the skin. Another option is using products that have low concentrations of DEET. Even with its shortfalls, an estimated 200 million people use DEET-based products and adverse reactions are extremely rare.

Alternatives to DEET-based repellents are available. A natural oil gaining popularity is lemon-scented citronella, which is derived from an Asian grass. Citronella itself evaporates quickly, reducing its effectiveness. However, formulations have been created to avoid this problem.

A little planning and a few precautions can make a big difference when spending time outside this summer. So whether it's work or relaxation, by dressing appropriately and having the right insect repellents on hand, you can be a little more comfortable outdoors.

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