# YCPARMIA
# Safety Guide

## West Nile Virus

West Nile Virus has been making the headlines recently due to the increasing number of cases being reported and identified in Northern California. West Nile Virus was first identified 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 recommended some ways that you can reduce your 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. Other effective mosquito repellents, as reported by the CDC in April 2005, are picaridin and oil of lemon eucalyptus.
- Always read and follow manufacturer's 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 mosquito bites.

### 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.

## Health effects of DEET

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.

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.

Even with its shortfalls, an estimated 200 million people have used DEET-based products and adverse reactions are extremely rare.

## Suggestions for DEET Use

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.

Other suggestions for DEET based repellent use include the following:

- 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.

## DEET Free Options

Two alternatives to DEET based repellents were announced by the CDC in an April 28th, 2005 press release. While the CDC still states that DEET is "highly effective" it does recommend products that contain either picaridin or oil of lemon eucalyptus as effective mosquito repellent options.

The release indicates that picaridin has been used for years in Europe, Australia, Latin America and Asia and "evidence indicates that it works very well, often comparable with DEET products of similar concentration. "

According to the CDC, oil of lemon eucalyptus (also know as p-menthane 3,8-diol or PMD) is, "a plant-based mosquito repellent that provided protection time similar to low concentration DEET products in two recent studies."

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 considerably more comfortable outdoors.