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## HEALTHY CHOICES FOR MIND AND BODY

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### West Nile Virus ... Coming to a mosquito near you

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#### **Mosquitoes: Nature's dirty needle.**

Zillions of mosquitoes swarm in warm, wet places to infect people with West Nile virus, malaria, dengue fever, yellow fever, Japanese encephalitis, eastern equine encephalitis, St Louis encephalitis and others. These viruses cause more than 500 million illnesses and 1 million deaths worldwide each year.

Mosquitoes carry viruses between animals, birds and humans. They acquire the virus in blood from one sting, and deliver it to the next animal/bird they attack.

Mosquitoes are attracted to dark colors and warm bodies, and usually bite at dawn and dusk. You can reduce the chance of acquiring mosquito-borne disease by eliminating standing water pools, even from empty pots and poorly draining areas of the yard. Use mosquito repellent if exposure is unavoidable.

in 1999. It has slowly spread across the U.S since then.

The states' departments of health and human services screens dead birds and alive mosquitoes and horses for the disease. Infected mosquito pools are sprayed to reduce transmission. If you see a dead bird without obvious evidence of trauma, report it to your county health department.

**Symptoms and Illness:** Most people exposed to WNV don't know they've been infected. They experience no symptoms as their immune

**Bottom line at the top:** The vast majority of West Nile Virus infections don't kill, but, once present, are not treatable except by your own immune system. Use insect repellent and eliminate standing water breeding grounds for mosquitoes.

In June the Kansas and California health departments identified the first two West Nile Virus (WNV) cases of this year. By August 16, the US Centers for Disease Control (CDC) reported that 333 people nationwide had become ill and eight had died with the virus. Both national and state statistics underestimate the number of infected people, since most do not develop illness or symptoms. The CDC only lists cases that have been confirmed with rigorous testing, so its numbers are lower than the states'. To see the statistics for your state, contact or check the website for your state's health department. The CDC website is [cdc.gov/ncidod/dvbid/westnile/index.htm](http://cdc.gov/ncidod/dvbid/westnile/index.htm).

**Transmission:** The virus primarily infects birds. Human infection only occurs when mosquitoes who have dined on infected birds go after human flesh. Human-to-human transmission has not been seen, but we should avoid contact with an infected individual's blood. The blood bank screens for the virus and rejects blood that tests positive.

**Surveillance:** The first human case of West Nile Virus was identified in 1937. It entered the United States and killed 7 people in New York City

**Mosquito Repellents** vary in potency and effective duration, with variation even among different species of mosquito. For example, 20% DEET and 20% Picaridin are similarly effective for certain types of mosquito, but for another type, DEET's effect lasts over two hours longer (7 hours vs. 5 hours). DEET is more effective for ticks. Oil of Eucalyptus must be replaced every 15-30 minutes for effective protection.

system makes antibodies that kill the virus. Twenty per cent of infected people experience West Nile Fever, with mild to moderate symptoms of fever, headache, body aches, tiredness and rash that last a few days. Less than 1% of infected people develop meningitis (inflammation of the lining of the brain and spinal cord), or encephalitis (inflammation of the brain). People with meningitis have fever, stiff neck and headache, while encephalitis is characterized by severe headache, fever, convulsions, confusion, and inability to function mentally or physically. About 10% of people with meningitis or encephalitis die. More elderly and chronically ill people develop severe illness and die. Overall, the mortality rate is ~ a tenth of a percent of all those exposed to WNV, not nearly as bad as Ebola virus (50-89%), but certainly more dangerous than the common cold.

**Treatment:** No treatment exists for WNV infection. If the virus is devouring your brain, the doctor's only course of action is to try to support you while everyone hopes your immune system effectively fights it off. While the chances of dying from WNV are small, the only way to ensure you don't is to prevent mosquito bites. So slather on the mosquito repellent and eliminate standing water mosquito breeding grounds. A vaccine for horses was just released, but none is available for human disease. There are two ongoing trials of new WNV treatments, with information at [www.clinicaltrials.gov/show/NCT00068055](http://www.clinicaltrials.gov/show/NCT00068055) and [www.Nyhq.org/posting/rahal.html](http://www.Nyhq.org/posting/rahal.html).