



### Mosquitoes: More Than an Annoyance — A Disease Vector



Vector-borne diseases are among the most complex of all infectious diseases to prevent and control. Not only is it difficult to predict the habits of mosquitoes, ticks and fleas, but most vector-borne viruses or bacteria infect animals as well as humans.

**West Nile virus (WNV)** is most commonly transmitted to humans by mosquitoes. You can reduce your risk of being infected with WNV by using insect repellent and wearing protective clothing to prevent mosquito bites. There are no medications to treat or vaccines to prevent WNV infection. Fortunately, most people infected with WNV will have no symptoms. About 1 in 5 people who are infected will develop a fever with other symptoms. Less than 1% of infected people develop a serious, sometimes fatal, neurologic illness.

**Chikungunya (pronunciation: \chik-en-gun-ye) virus** is transmitted to people by mosquitoes. The most common symptoms of chikungunya virus infection are fever and joint pain. Other symptoms may include headache, muscle pain, joint swelling, or rash. In late 2013, chikungunya virus was found for the first time in the Americas on islands in the Caribbean. There is a risk that the virus will be imported to new areas by infected travelers. There is no vaccine to prevent or medicine to treat chikungunya virus infection. Travelers can protect themselves by preventing mosquito bites. When traveling to countries with chikungunya virus, use insect repellent, wear long sleeves and pants, and stay in places with air conditioning or that use window and door screens.

**Dengue Virus** is considered to be more than 1/3 of the world's population living in areas at risk for infection, dengue virus is a leading cause of illness and death in the tropics and subtropics. As many as 400 million people are infected yearly. Dengue is caused by any one of four related viruses transmitted by mosquitoes. There are not yet any vaccines to prevent infection with dengue virus and the most effective protective measures are those that avoid mosquito bites; When infected, early recognition and prompt supportive treatment can substantially lower the risk of medical complications and death. Dengue has emerged as a worldwide problem only since the 1950s. Although dengue rarely occurs in the continental United States, it is endemic in Puerto Rico and in many popular tourist destinations in Latin America, Southeast Asia and the Pacific islands.

**Zika Virus** is spread to people through mosquito bites. The most common symptoms of Zika virus disease are fever, rash, joint pain, and conjunctivitis (red eyes). The illness is usually mild with symptoms lasting from several days to a week. Severe disease requiring hospitalization is uncommon. In May 2015, the Pan American Health Organization (PAHO) issued an alert regarding the first confirmed Zika virus infection in Brazil. The outbreak in Brazil led to reports of Guillain-Barré syndrome and pregnant women giving birth to babies with birth defects and poor pregnancy outcomes. In response, CDC has issued travel notices for people traveling to regions and certain countries where Zika virus transmission is ongoing.

### MOSQUITO BITE PREVENTION & TIPS

**Wear insect repellent:** Yes! It is safe. When used as directed, insect repellent is the BEST way to protect yourself from mosquito bites—even children and pregnant women should protect themselves. Higher percentages of active ingredient provide longer lasting protection.

- **DEET:** Products containing DEET include Cutter, OFF!, Skintastic.
- **Picaridin** (also known as KBR 3023, Bayrepel, and icaridin): Products containing picaridin include Cutter Advanced, Skin So Soft Bug Guard Plus, and Autan (outside the United States).
- **Oil of lemon eucalyptus (OLE) or PMD:** Repel contains OLE.
- **IR3535:** Products containing IR3535 include Skin So Soft Bug Guard Plus Expedition and SkinSmart.

**Cover up:** When weather permits, wear long-sleeved shirts and pants

**Keep mosquitoes outside:** Use air conditioning or make sure that you repair and use window/door screens

### PLANNING A TRIP??

Make a check list of everything you'll need for an enjoyable vacation and use the following resources to help you prepare.

- Pack a [travel health kit](#). Remember insect repellent and use it to prevent mosquito bites.
- Learn about destination-specific health risks and recommendations by visiting [CDC Travelers' Health website](#).
- See a healthcare provider familiar with travel medicine, ideally four to six weeks before your trip.