

FIGHT BACK BY KNOWING THE FACTS:

- Peak mosquito biting hours are from dusk to dawn.
- Wear a mosquito repellent shown to decrease bites such as DEET, permethrin, picaridin, IR3535, or oil of lemon eucalyptus.
 - ◇ Products containing up to 30 percent DEET have been shown to be the most effective and are safe for adults, including pregnant women, and children over 2 months of age.
 - ◇ Permethrin repellants should be applied to clothing only and should not be used on skin.
- Wear light colored, long-sleeved shirts and long pants.
- Eliminate standing water where mosquitoes breed, such as old tires in the backyard.
- Change water in birdbaths and pet bowls every three to four days to stop mosquitoes from breeding.
- Turn over items in your yard where rainwater can collect, such as kiddie pools.
- Windows and doors should have tight-fitting screens.
- Make sure roof gutters are clean and in good repair.
- Repair leaky outdoor faucets, air conditioners, and hoses which may increase standing water around your home where mosquitoes can breed.

FOR MORE INFORMATION

For additional information on Mosquito-borne Diseases, visit

Centers for Disease Control and Prevention

[http://www.cdc.gov/ncidod/diseases/
list_mosquitoborne.htm](http://www.cdc.gov/ncidod/diseases/list_mosquitoborne.htm)

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MOSQUITOES



Aedes aegypti
Not found in Iowa



Aedes albopictus
Not commonly found
in Iowa



Aedes triseriatus
Found in Iowa



Anopheles Mosquito
Found in Iowa



Culex Piptens
Found in Iowa

MOSQUITO-BORNE DISEASES

Fight the BITE



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WEST NILE VIRUS

West Nile virus is carried by mosquitoes (especially *Culex* species), and can cause serious illness in humans and animals.

Signs and Symptoms:

Most people who are infected with West Nile virus either have no symptoms or experience mild illness such as fever, headache, and body aches.

In less than 1 percent of infections, particularly in those people over age 50, West Nile virus can cause encephalitis (inflammation of the brain) or meningitis (inflammation of the lining of the brain and spinal cord).

Where found:

The virus was first found in the U.S in 1999, and has since spread across the continental United States. The virus was first identified in Iowa in September 2001, and human cases are now reported in Iowa annually.

DENGUE FEVER

Dengue is a disease caused by any one of four related viruses, which are passed by the bite of an infected *Aedes aegypti* or *Aedes albopictus* mosquito.

Signs and Symptoms:

Infection with one of the four viruses does not protect against the others and consecutive infections put people at greater risk of developing dengue hemorrhagic fever (DHF).

Symptoms of dengue fever are high fever, severe headache, severe pain behind the eyes, joint pain, muscle and bone pain, rash, and mild bleeding (e.g., nose or gums bleed, easy bruising).

DHF is a more severe form of dengue infection, and can be fatal if not properly treated in a timely manner.

Where found:

Dengue is not found in Iowa. Nearly all dengue cases reported in the United States were acquired elsewhere by travelers or immigrants.

LA CROSSE ENCEPHALITIS

La Crosse encephalitis virus (LACV) is passed to humans by the bite of an infected *Aedes triseriatus* mosquito. These mosquitoes are most active during the daytime, especially in or near infested woods.

Signs and Symptoms:

Many people who are infected with LACV have no symptoms. Among people who become ill, symptoms include fever, headache, nausea, vomiting, and tiredness.

Some also develop severe disease that affects the nervous system, such as encephalitis (an inflammation of the brain), which can cause seizures, coma, and paralysis. Severe disease occurs most often in children under the age of 16.

Where found:

Most cases occur in the upper Midwestern, mid-Atlantic, and Southeastern states. Cases are infrequently reported in Iowa.

CHIKUNGUNYA

Chikungunya is a viral disease that is spread to people by the bite of an infected *Aedes aegypti* and *Aedes albopictus* mosquito. Mosquitoes become infected when they feed on a person already infected with the virus.

Signs and Symptoms:

Symptoms usually begin three to seven days after being bitten by an infected mosquito.

The most common symptoms are fever and severe joint pain, often in the hands and feet. Other symptoms can include headache, muscle pain, joint swelling, or rash.

Where found:

Chikungunya outbreaks have occurred in Africa, Southern Europe, Southeast Asia, and islands in the Indian and Pacific Oceans. In 2013, Chikungunya was found for the first time on islands in the Caribbean. Chikungunya is not found in Iowa, but Iowans can acquire elsewhere and develop illness after returning home.

SAINT LOUIS ENCEPHALITIS

Saint Louis encephalitis virus (SLEV) is passed to humans by the bite of an infected *Culex* species mosquito.

Signs and Symptoms:

Most people infected with SLEV have no apparent illness. Symptoms of those who become ill include fever, headache, nausea, vomiting, and tiredness.

Severe neuroinvasive disease (often involving encephalitis, an inflammation of the brain) occurs more commonly in older adults. In rare cases, long term disability or death can result.

Where found:

Most cases of SLEV disease have occurred in the Eastern and Central parts of the United States. SLEV is rarely reported in Iowa.

MALARIA

Malaria is a serious and sometimes fatal disease caused by a parasite that commonly infects *Anopheles* mosquitoes.

Malaria is spread to humans by the bite of the infected female mosquito. Only *Anopheles* mosquitoes can transmit malaria and they must have been infected through a previous blood meal taken from an infected person.

Signs and Symptoms:

Malaria can cause fever and flu-like illness, including shaking chills, headache, muscle aches, and tiredness. Nausea, vomiting, and diarrhea may also occur. If it is not treated properly, severe complications and death can occur.

Where found:

Malaria was eliminated from the U.S. in the early 1950's. Cases occurring in the U.S. are in travelers and immigrants returning from parts of the world where malaria transmission occurs.