

## **What is Dengue Fever?**

Dengue fever is an infectious disease carried by mosquitoes and caused by any of four related dengue viruses. This disease used to be called "break-bone" fever because it sometimes causes severe joint and muscle pain that feels like bones are breaking. Health experts have known about dengue fever for more than 200 years.

Dengue fever is found mostly during and shortly after the rainy season in tropical and subtropical areas of the Caribbean and Central and South America, Africa, Southeast Asia and China, India, the Middle East, Australia and the South and Central Pacific. Worldwide, 50 to 100 million cases of dengue infection occur each year. This includes 100 to 200 cases in the United States, mostly in people who have recently traveled abroad. Many more cases likely go unreported because some health care providers do not recognize the disease.

### **Cause**

Dengue fever can be caused by any one of four types of dengue virus: DEN-1, DEN-2, DEN-3, and DEN-4. You can be infected by at least two if not all four types at different times during your lifetime, but only once by the same type.

### **Transmission**

Dengue virus can be transmitted from the bite of an infected *Aedes* mosquito. Mosquitoes become infected when they bite infected humans, and can later transmit the infection to other people. Two main species of mosquito, *Aedes aegypti* and *Aedes albopictus*, have been responsible for all cases of dengue transmitted in Mexico. Dengue cannot be transmitted from person to person without a mosquito as the intermediate vector.

### **Symptoms**

Symptoms of typical uncomplicated (classic) dengue usually start with fever within 4 to 7 days after you have been bitten by an infected mosquito. These symptoms include: high fever, up to 105°F, severe headache, retro-orbital (behind the eye) pain, severe joint and muscle pain, nausea and vomiting, and rash. The rash may appear over most of the body 3 to 4 days after the fever begins, and then subsides after 1 to 2 days. There may be a second rash a few days later.

Symptoms of dengue hemorrhagic fever include all of the symptoms of classic dengue plus bleeding from the nose, gums, or under the skin, causing purplish bruises, which results from damage to blood vessels. This form of dengue disease can cause death.

### **How is Dengue Diagnosed and Treated?**

Dengue can be diagnosed by doing two blood tests, 2 to 3 weeks apart. The tests can show whether a sample of your blood contains antibodies to the virus. However, in epidemics, a health care provider often diagnoses dengue "presumptively" by typical signs and symptoms without waiting for lab results.

## **Treatment**

There is no specific treatment for classic dengue fever, and most people recover within 2 weeks. To help with recovery, health care experts recommend:

The U.S. Centers for Disease Control advises people with dengue fever not to take aspirin. For severe dengue symptoms, including shock and coma, early and aggressive emergency treatment with fluid and electrolyte replacement can be lifesaving.

## **Complications**

Most people who develop dengue fever recover completely within 2 weeks. Some, especially adults, may be tired and/or depressed for several weeks to months after being infected with the virus.

The more clinically severe dengue hemorrhagic fever and dengue shock syndromes can result in vascular (blood vessel) and liver damage, and can be life-threatening.

## **How Can I Prevent Dengue?**

The best way to prevent dengue virus infection is to take special precautions to avoid being bitten by mosquitoes. Several dengue vaccines are being developed, but none is likely to be licensed by the Food and Drug Administration in the next few years.

When outdoors in an area where dengue fever has been found, use a mosquito repellent containing DEET, Picaridin, and oil of lemon eucalyptus are less effective than DEET so are not recommended as a substitute unless there is an allergy or a contraindication to DEET or it is unavailable. Dress in protective clothing-long-sleeved shirts, long pants, socks, and shoes. Because Aedes mosquitoes usually bite during the day, be sure to use precautions especially during early morning hours before daybreak and in the late afternoon before dark.

Other precautions include:

- Keep surrounding areas free from free standing water.
- Wear long sleeves and light colored clothes.
- Use insect repellent when outside.
- Unscreened windows should be kept closed to prevent the mosquitoes from entering.
- Carefully inspect your environment to detect and eliminate all areas with standing water where mosquitoes can breed, such as flower pots, containers, birdbaths, discarded tires, etc.