



Hawaii State Department of Health

Disease Investigation Branch

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Dengue Fever

(breakbone fever, dengue hemorrhagic fever)

What is dengue fever?

Dengue fever is a viral illness spread by mosquitoes. There are four closely related dengue viruses (DENV 1, DENV 2, DENV3 and DENV 4). The disease occurs mainly in tropical Asia, Africa, The Caribbean and the South Pacific. It is most common during the rainy season in areas infested with infected mosquitoes. Sometimes, persons arriving from other countries may enter the United States with dengue fever and infect local mosquitoes, which happened in Hawaii in 2001 and in 2015.

How do you get it?

The dengue virus is spread through the bite of infected *Aedes* mosquitoes, which are found throughout Hawaii. A mosquito can become infected if it feeds on someone who is already infected with the virus. This is why it is important to stay away from mosquitoes when you are infected. When an infected mosquito bites a new person, that mosquito can transmit the dengue virus to that new person. Dengue is not spread directly from one person to another.

What are the symptoms of dengue fever?

The symptoms of dengue fever include sudden onset of fever, severe headache, eye, joint, and muscle pain, and rash. The rash typically appears on the hands, arms, legs and feet 3 to 4 days after the fever begins. Minor bleeding problems can also occur. The symptoms usually go away completely within 1 to 2 weeks. Sometimes, people with dengue fever have blood clotting problems. When this happens, the illness is called dengue hemorrhagic fever. Dengue hemorrhagic fever is a very serious illness with abnormal bleeding and very low blood pressure (shock).

When do symptoms start?

The symptoms usually start 5 to 7 days after being bitten by infected mosquitoes, but the onset can range from 3 to 15 days.

How does your doctor or other healthcare provider determine if you have contracted dengue fever?

Your healthcare provider will consider if your symptoms are what would be expected for dengue fever. If that is likely, then your doctor will contact DOH to request and coordinate testing of your blood for the virus (if within 7 days from the start of your symptoms) or antibodies (if greater than 7 days from the start of your symptoms).

Dengue diagnostic tests are conducted by the DOH State Laboratories on Oahu for free for people meeting the Department of Health's testing criteria (although the clinical laboratory where your blood is drawn may charge a nominal processing fee for the visit, blood draw, etc.). Ask your doctor to see if you can be tested for Dengue by the DOH State Laboratories.

Is it possible to be infected with dengue virus but have no symptoms?

Yes. As many as 50-75% of all dengue-infected people have no clinical signs or symptoms of the disease. Some infected people experience fever but their other symptoms are mild and nonspecific, making their dengue infection difficult to diagnose. Ill persons who suspect they have dengue should see a healthcare provider.

Can people who are infected but have no symptoms spread the virus to mosquitoes?

Some evidence suggests that it is possible for people with no symptoms (asymptomatic) but infected with

dengue virus to transmit the virus to mosquitoes who bite them, although the role of asymptomatic transmission in dengue-affected areas is still unclear. Such risk makes it all the more important that everyone take steps against mosquitoes (e.g., eradicating mosquito breeding grounds, covering up exposed parts of the body, and using insect repellent) to avoid being bitten and infected in the first place.

What is the treatment for dengue fever?

There is no specific treatment to treat dengue fever. It is treated by addressing the symptoms:

- a) Get plenty of bed rest.
- b) Drink fluids to prevent hydration.
- c) Take medicine such as acetaminophen (Tylenol®) or paracetamol to reduce fever and pain. Do NOT take aspirin and other non-steroidal anti-inflammatory drugs (for example, ibuprofen such as Advil® or Motrin®) because they can make bleeding problems worse.
- d) If you are taking medicine for another medical condition, talk to your healthcare provider before taking any other medication.
- e) Avoid being bitten by mosquitoes during the first week of illness, to prevent the spread of dengue to mosquitoes which may then infect other people.

There is currently no vaccine for dengue fever approved for use in the United States. Individuals with dengue should seek out medical care.

Do pregnant women or breastfeeding mothers need to take extra precautions?

It is possible for a pregnant woman who is infected with dengue virus to infect her unborn baby or her newborn baby at birth. It is especially important that pregnant mothers receive proper medical attention if infected with the dengue virus. Like everyone else, pregnant women should focus on avoiding becoming infected by getting rid of standing water where mosquitoes can breed, covering up exposed areas of the body to avoid being bitten, and using repellent containing DEET, picaridin, IR3535, or oil of lemon eucalyptus, which are approved for pregnant women.

The risk of a mother passing the virus to her newborn through breastmilk is considered low, and the health benefits of breastfeeding are much greater than the likelihood of spreading disease. Breastfeeding mothers should talk with their pediatrician about concerns or questions they have regarding breastfeeding and dengue risk.

If you get dengue fever once, can you get it again?

Yes. There are four major types of dengue viruses (DENV 1, DENV 2, DENV 3, and DENV 4). Having dengue fever with one type of dengue virus will not protect you from the other three types.

If you want to get tested for dengue fever after more than a week has passed from the time you were ill, an antibody test can determine whether you were previously infected with dengue. However, determining which dengue virus type you had is not possible after the first week of illness.

How do you keep from getting it?

- When traveling to areas that have dengue fever, try to avoid exposure to mosquitoes. *Aedes* mosquitoes are usually most active in the early morning hours after daybreak, in the late afternoon before dark, and any time during the day when indoors or in shady areas.
- Use mosquito netting over beds, and screens on windows and doorways.
- Use mosquito repellents and wear appropriate clothing such as long-sleeved shirts and long pants that reduce exposure to mosquito bites.
- Mosquitoes are drawn to dark colors; so if possible, wear white or light colored clothing when you are likely to be exposed to biting mosquitoes.

Do people who have contracted dengue fever need to be quarantined?

Dengue fever cases do NOT require quarantine, because dengue fever is not spread from person to person. However, people infected with dengue must be careful to avoid mosquitoes. The most effective way to prevent future cases is to get rid of mosquitoes which might bite infected persons and then spread the virus to uninfected persons. Quarantines are extreme measures used for serious fatal diseases spread by direct human-to-human contact.

For more information:

CDC Dengue <https://www.cdc.gov/dengue/index.html>