

# Dengue



Dengue is a viral infection with flu-like symptoms that is spread by mosquitoes. It is widespread in many areas of the world, particularly in tropical and subtropical regions. While it can be mild in most cases, dengue can be severe in around 1-2% of cases and has the potential to be fatal. Seek medical care if symptoms persist or worsen.

## Symptoms

Most dengue infections produce either mild symptoms or none. Symptoms usually develop suddenly 4-10 days after infection. These may include:

- + Fever (up to 40°C or 104°F)
- + Severe headache
- + Joint and muscle pains
- + Pain behind the eyes
- + Nausea and vomiting
- + Widespread rash
- + Loss of appetite
- + Mild bleeding (nose or gum bleeding)

In general, younger children and those infected with dengue for the first time exhibit milder symptoms compared with older children and adults. In most cases, dengue resolves within a few days. In about 1-2% of cases more serious symptoms can develop which can be fatal. If severe

symptoms are present, seek medical attention immediately. More severe symptoms may include:

- + Severe abdominal pain
- + Swollen abdomen
- + Persistent vomiting or vomiting blood
- + Black stools (feces)
- + Red spots or patches on the skin
- + Bleeding from the nose or gums
- + Pale, cold, or clammy skin
- + Drowsiness
- + Irritability
- + Difficulty breathing or rapid breathing
- + Weak but rapid pulse

## Transmission

Transmission is via the bite of an infected female mosquito, most commonly the *Aedes aegypti* mosquito, but also *Aedes albopictus*. These species most commonly bite in the day, with peak biting in the early morning and late afternoon/evening. These types of mosquitos are common around human habitation and breed mostly in still waters. Once infected, the mosquito can transmit the virus for the rest of its life.

## Diagnosis

Along with clinical symptoms and recent medical history, several diagnostic clinical tests can be used to detect the virus, antigens, or antibodies from blood, plasma, or tissue in order to confirm a diagnosis of dengue. The type of test would depend on the stage of the infection. This would more likely be required if persistent and more severe symptoms were evident.

## Treatment

There is no specific antiviral treatment for dengue; therefore, treatment is based on supportive therapies. Any individuals showing symptoms should consult a doctor. In most cases, hospital admission is not required and you can take care of yourself at home until the infection has run its course. Ensure that you get plenty of rest and remain well hydrated by drinking plenty of fluids.

If overseas, remember to check if the local water supply is safe to drink; otherwise, bottled water is recommended. To relieve aches and pain and reduce fever, you can take an over-the-counter medication such as paracetamol, but avoid aspirin, ibuprofen, and other nonsteroidal anti-inflammatory drugs as they may cause further bleeding in individuals with dengue. In general, symptoms should improve in around a week, although it may take a few weeks to completely get back to normal.

No vaccination is available for dengue.

## Prevention

Taking steps to avoid mosquito bites is the best preventative measure against contracting the dengue virus. Pre-travel advice from your family doctor, nurse, or travel clinic is advised.

Be aware of peak exposure times in terms of mosquito bites to mitigate the risk of infection, and avoid stagnant water where mosquitoes are known to breed. Stay in places with mesh screens on doors and windows to keep out mosquitoes.

Wear loose clothes (preferably light in color) that cover as much skin as possible, tuck in shirts and trousers into socks, wear shoes that cover your feet instead of sandals, and use repellents on clothes as well as exposed skin. Use mosquito bed nets that reach the floor or can be tucked under the mattress and are ideally pretreated with an insecticide.

Repellents containing DEET or icaridin/picaridin should be used. When using any mosquito repellents, make sure to read the label carefully and follow the instructions exactly. Some repellents cannot be used on children under a certain age.

If in an area requiring sunscreen, then insect repellent should be applied after the sunscreen. Studies have shown that DEET (33% concentration) reduces sunscreen protection from SPF15. However, in concentrations >33% DEET, sunscreen does not reduce the efficacy of the insect repellent. It is therefore recommended that 30-50 SPF sunscreen should be used and DEET should be reapplied after the sunscreen.

Insect repellent should be reapplied after swimming. In hot countries, frequent applications may also be required. It should be reapplied on exposed skin throughout the day and should also be used at night both indoors and outdoors. Most mosquitoes are known to bite outdoors, but *Aedes aegypti* species are also known to bite indoors. All mosquitoes lay their eggs in water, therefore, to reduce larval hatching of mosquitoes ensure there is no standing water left around (e.g. collected in saucers under plant pots).

Always call the Anvil Assistance line if help is required with medications or any medical issues during travel.

For more information and the most up-to-date facts, please visit the website of the World Health Organization (WHO).

This factsheet is not designed as a replacement for professional medical advice. Please consult your medical professional for any concerns or queries regarding dengue.