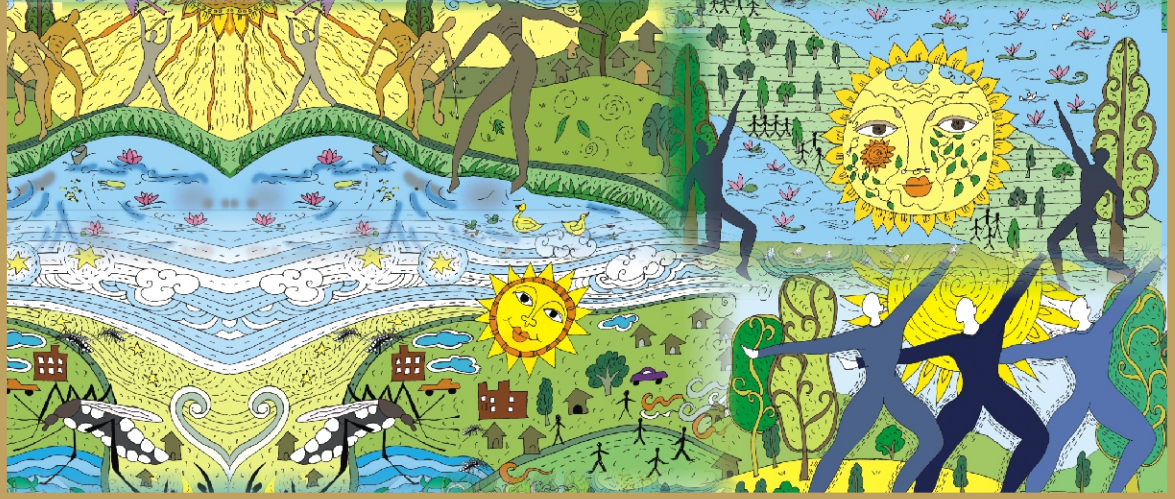

FAQs

Frequently Asked Questions on

Dengue

Prevent Control

Vector-borne diseases

Chikungunya • **Dengue** • Japanese encephalitis • Kala-azar • Lymphatic filariasis • Malaria • Schistosomiasis

World Health Organization
Regional Office for South-East Asia

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Frequently Asked Questions on Dengue

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FAQs

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Q 1: What is dengue fever?

Dengue fever is a serious illness caused by a virus, which is spread through the bite of an infected *Aedes* mosquito.

Occasionally the patient suffering from dengue may develop complications such as bleeding from the nose, gums or skin. Sometimes, the patient may have vomiting that looks similar to ground coffee, or pass black stools. This indicates bleeding in gastrointestinal tracts and it is serious. A patient with dengue who develops bleeding has dengue haemorrhagic fever (DHF). In rare instances, the patient suffering from dengue may develop shock or insufficient blood circulation, which is called dengue shock syndrome (DSS).

Q 2: How does dengue spread?

Dengue is spread by the bite of an *Aedes* mosquito. The mosquito transmits the disease by biting an infected person and then biting someone else.

Q 3: How soon after exposure do symptoms appear?

The time between the bite of a mosquito carrying dengue virus and the start of symptoms averages from 4 to 6 days, with a range of 3–14 days. An infected person cannot spread the infection to other persons by direct contact, but can be a source of dengue virus for mosquitoes for about 6 days.

Q 4: Who is at risk for dengue?

Anyone who is bitten by an infected *Aedes* mosquito can get dengue fever.

Risk factors for dengue haemorrhagic fever include a person's age and immune status, as well as the type of infecting virus. Persons who were previously

infected with one or more types of dengue virus are thought to be at greater risk for developing dengue haemorrhagic fever if infected again.

Q 5: When should I suspect dengue?

Dengue should be suspected if you have a sudden onset of high fever, which could reach 39–40°C (103–105°F). It is accompanied by severe headache (mostly in the forehead), pain behind the eyes, body aches and pains, skin rash and nausea or vomiting. The symptoms usually last for 5–7 days. In some patients, fever comes down on the third or fourth day but it may reappear.

All these symptoms and signs are unlikely to be present simultaneously in a patient, but if there is a minimum of two or three symptoms then dengue should be suspected.

Q 6: There are several different kinds of fever. When should dengue be suspected?

The characteristics of dengue that differentiate it from other causes of fever are the pain behind the eyes, severe pain in the muscles, severe joint pain, and skin rashes. These features point to a likely diagnosis of dengue. The severe joint pain caused by dengue is why it is also called "break-bone fever".

Q 7: How can a diagnosis of dengue be confirmed?

Apart from the clinical features, there are laboratory tests which can confirm dengue infection. There are different methods, with different levels of accuracy, and these tests should be conducted in reliable laboratories. The tests include antigen detection tests which are the earliest to become positive, and antibody detection tests, which become positive after day 5 of the illness.

Q 8: Is it possible to get dengue fever twice?

Yes. It is possible to get dengue more than once. There are four different strains (serotypes) of the dengue virus. If a person has suffered from one virus, there can be a repeat occurrence if a different strain is subsequently involved.

Subsequent infections with different serotypes increases the risk of severe complications.

Q 9: How does one get dengue fever?

Dengue fever occurs following the bite of an infected *Aedes aegypti* mosquito. This mosquito has a peculiar white spotted body and legs and is easy to recognize. It breeds in clean water and has a flight range of only 100–200 m. The mosquito picks up the dengue virus after biting someone already infected with the virus.

Q 10: Can I get dengue fever from another person?

Dengue is not contagious. It does not spread directly from person-to-person through physical contact. It only spreads through the bite of an infected *Aedes* mosquito.

When an infected person is bitten by a mosquito, the mosquito might later bite other people. Therefore, patients should be protected against contact with mosquitoes. This can be achieved by ensuring that people follow preventive measures (described below).

Q 11: Can people get infected with dengue virus and not appear ill?

Yes. There are many people who are infected with the virus and do not suffer from any signs or symptoms of the disease. For every patient with symptoms and signs there may be four or five persons with either no symptoms or very mild symptoms.

Q 12: Can dengue fever be treated at home?

Most patients with dengue fever can be treated at home. They should take rest, drink plenty of fluids and maintain a nutritious diet. Whenever available, oral rehydration salts (commonly used in treating diarrhoea) should be taken. Sufficient fluid intake is very important, and becomes critical if the fever progresses into dengue haemorrhagic fever, where loss of body fluid/blood is the most salient feature.

It is important to look out for danger signs and contact the doctor as soon as one or more of these are noticed. *(The danger signs are detailed in the answer to Question 16: "When should a patient suffering from dengue go to the hospital or consult a doctor?")*

Q 13: What is the treatment? Is it curable?

Like most viral diseases, there is no specific cure for dengue fever. Antibiotics do not help. Paracetamol is the drug of choice to bring down fever and joint pain. Other medicines such as aspirin and ibuprofen should be avoided since they can increase the risk of bleeding.

Doctors should be very careful when prescribing medicines. Any medicine that decreases the platelet count should be avoided.

Q 14: Can dengue fever become dangerous?

The infection can become dangerous since it may damage the blood vessels. The damage may range from increased permeability of the blood vessels,

causing leakage of blood fluid/plasma into various organs, to completely broken blood vessels that cause bleeding. The symptoms and signs of dengue haemorrhagic fever and dengue shock syndrome are related to damage to the blood vessels and low platelet count (platelets are a component of our blood).

Q 15: Can people die from dengue fever?

People who suffer from dengue fever have no risk of death – but they may develop dengue haemorrhagic fever (DHF) or dengue shock syndrome (DSS). Death can occur in some of these cases if they are not treated in time. With proper, timely treatment, patients with DHF and DSS can recover fully.

Q 16: When should a patient suffering from dengue go to the hospital or consult a doctor?

Generally the progress towards dengue haemorrhagic fever or dengue shock syndrome occurs after 3–5 days of fever. At this time, the fever has often come down, leading many to believe that the patient is heading towards recovery. In fact, this is the most dangerous period, which requires high vigilance from care-givers.

The signs and symptoms that should be looked for are:

- severe pain in the abdomen
- persistent vomiting
- bleeding in the skin (appearing as small red or purplish spots)
- nose bleeds
- bleeding from gums
- passage of black stools like coal tar.

Take the patient to a hospital whenever the first two signs – severe abdominal pain and persistent vomiting – are detected. Usually it is too late for effective treatment if we wait until bleeding has occurred.

The most dangerous type of dengue is dengue shock syndrome (DSS). It is recognized by signs such as:

- excessive thirst
- pale and cold skin (due to very low blood pressure)
- restlessness
- a feeling of weakness.

Q 17: Is there a vaccine to prevent dengue fever?

Vaccines to prevent dengue fever are under trial. None is available in the market.

Q 18: Are there any long-term ill effects of dengue fever?

Most people who suffer from dengue fever recover in one or two weeks. Some may feel tired for several weeks. If symptoms persist longer than this, consult a doctor.

Q 19: Where does the mosquito that spreads dengue live?

The *Aedes aegypti* mosquito mostly rests indoors, in closets and other dark places, and in cool and shaded places outdoors. The female mosquito lays her eggs in water containers in and around houses and other dwellings. These eggs become larvae, and develop into adults in about 10 days.

Q 20: How can we stop these mosquitoes from multiplying?

Dengue mosquitoes breed in stored, exposed water. Preferred places for breeding are barrels, drums, jars, pots, buckets, flower vases, plant saucers, tanks, discarded bottles, tins, tyres, and water coolers. To prevent the mosquitoes from multiplying**,** drain out the water from desert coolers/window air coolers (when not in use), tanks, barrels, drums, buckets, etc. Remove all objects containing water (e.g. plant saucers) from the house. Collect and destroy discarded containers in which water collects, such as bottles, plastic bags, tins and used tyres.

In case it is not possible to drain out various water collections or to fully cover them, use "temephos", an insecticide, 1 part per million according to the local guidelines, to prevent larvae from developing into adults.

Q 21: How can I prevent mosquito bites to prevent dengue?

There is no way to tell if a mosquito is carrying the dengue virus. Therefore, people must protect themselves from all mosquito bites. *Aedes* mosquitoes bite during the day, and the highest biting intensity is about 2 hours after sunrise and before sunset. To avoid being bitten:

- Wear full-sleeve clothes and long dresses to cover as much of your body as possible.
- Use mosquito repellents (when using them on young children and the elderly, select ones that are safe for their use).
- Use mosquito coils and electric vapour mats during the daytime.

- Use mosquito nets to protect children, old people and others who may rest during the day. The effectiveness of these nets can be improved by treating them with insecticide. These bednets, or insecticide-treated nets, are also widely used in the prevention of malaria.

Q 22: How does a person with dengue fever prevent it from spreading to others?

Dengue spreads when an infected person is bitten by a mosquito that then bites others. The patient should thus be protected from contact with mosquitoes. This can be achieved by ensuring that people follow the preventive measures described above.

Q 23: Is there any danger in travelling to an area where a dengue outbreak has been reported?

There is no travel restriction. However, it is important to observe the preventive measures described above, and see a doctor if you develop sudden fever or some of the other symptoms of dengue.

Q 24: What can the community do to prevent dengue?

Prevention of dengue relies heavily on preventing the mosquito *(Aedes aegypti)* that transmits dengue from breeding inside and in the vicinity of homes. Every household can undertake very simple measures to prevent breeding by draining out water from various containers, regularly changing water and cleaning flower vases and other items or, in the case of unused items, by discarding or destroying them.

Since the mosquito cannot travel far, such "house cleaning" by all members of a community will ensure that no breeding places exist, and prevent dengue from occurring.

Q 25: What are the recommended strategies in the case of a dengue outbreak or epidemic?

Prevention of mosquito breeding places remains the main strategy. However to stop or to slow down the transmission it may be supplemented by "thermal fogging", using fogging machines. In fogging, an insecticide is used that has an immediate knock-down effect on adult mosquitoes. When fogging is undertaken after an epidemic occurs, it is unfortunately too late.

Fogging should be done every 3–4 days to be effective. It is expensive and time consuming. Therefore, measures undertaken by the community to prevent the breeding of mosquitoes are far more cost-effective than containment measures once an outbreak occurs.

Q 26: What are the factors for resurgence of dengue fever?

Several factors contribute to the resurgence of dengue fever:

- No effective mosquito control efforts are underway in most countries with dengue.
- Public health systems to detect and control epidemics are deteriorating around the world.
- Rapid growth of cities in tropical countries has led to overcrowding, urban decay and substandard sanitation, allowing more mosquitoes to live closer to more people.
- The increase in non-biodegradable plastic packaging and discarded tyres is creating new breeding sites for mosquitoes.
- Increased air travel allows people infected with dengue viruses to move easily from city to city.

Q 27: What is the advice regarding reporting of dengue?

All suspected or probable dengue cases should be reported to the health authorities. Further confirmation of the cases is done by the health authorities.

For health providers

Detailed information for health providers is available from: Comprehensive Guidelines for Prevention and Control of Dengue and Dengue Haemorrhagic Fever.

Revised and Expanded edition WHO-SEARO, 2011
http://searo.who.int/communicablediseases/dengue

Q 28: What should the doctors treating dengue do?

Patients suspected to be suffering from dengue haemorrhagic fever or dengue shock syndrome should be hospitalized without delay.

These patients should be reviewed regularly at 1–2 hour intervals, and their platelet counts and haematocrits should be monitored frequently. If the haematocrit levels fall dangerously low then a blood transfusion should be considered. A fall of more than 20% as compared with previous levels may be an indication for transfusion.

If the haematocrit values rise, the patient should be given fluids intravenously and the fluids carefully monitored to ensure that the patient does not get excess. A rise of more than 20% in haematocrit levels as compared with previous levels may be an indication for IV fluids. The doctor should use his/her judgment based on the patient's condition.

Platelets are cells in blood that help to stop bleeding. Haematocrit indicates the thickness or concentration of blood.

Q 29: What should doctors treating dengue avoid?

There are few things to remember:

- Do not prescribe aspirin, ibuprofen or any other medicine that reduces the platelets or increases the tendency of bleeding.
- Avoid giving intravenous (IV) fluids unless the patient is bleeding or the haematocrit level is rising progressively.
- Avoid blood transfusion unless the haematocrit is falling dangerously.
- Do not give platelet transfusion unless the platelet count is very low or unless there is bleeding.

Q 30: What is the advice regarding reporting of dengue?

All suspected or probable dengue cases should be reported to the health authorities. Further confirmation of the cases is done by the health authorities. Seek their guidance on blood collection and transportation of samples from suspected/ probable cases of dengue.

Dengue is one of the most rapidly spreading vector-borne communicable diseases in the WHO South-East Asia Region. Transmitted by the *Aedes* mosquito, dengue can be fatal, and it does not have a vaccine or cure, so the emphasis is on prevention. This booklet answers some common questions, and is for the general public as well as health care providers.

More information on dengue and other vector-borne disease is available from the Communicable Diseases Department web site:

http://www.searo.who.int/entity/world_health_day_2014

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