

Information sheet about pathogens in humans

What is dengue fever?

Dengue fever is a vector-borne disease caused by the dengue virus. The viruses are transmitted from *Aedes* mosquitoes to humans. These mosquitoes are particularly found in tropical and subtropical regions. Dengue fever is one of the most common causes of fever in people who have returned from travel to large parts of the tropics and subtropics.

How is dengue fever transmitted?

Dengue viruses are transmitted to humans mainly through the bite of the Egyptian tiger mosquito (*Aedes aegyptii*). They are found in subtropical and tropical regions, for example in Central America, South America, Southeast Asia or parts of Africa. The mosquitoes can bite at any time of the day, but are mostly active during the day and often bite early in the morning and in the evening at dusk. The risk of transmission is particularly high during the rainy season.

Another subspecies of the *Aedes* mosquito, the Asian tiger mosquito (*Aedes albopictus*), is also found in the southern part of Europe. There have been isolated cases of dengue virus transmission in this area in the past.

There is usually not any direct transmission from person to person.

What symptoms do the sufferers show?

In most cases, the dengue virus causes no symptoms or only mild symptoms, which disappear within a few days and up to a week. Classic dengue fever can initially become noticeable through flu-like symptoms. Typical symptoms at the beginning include a fever up to 40 degrees, chills and headaches. The headaches are often perceived as a strong feeling of pressure behind the eyes. Additional symptoms include muscle pain and joint pain, which is why dengue fever is also called "break-bone fever". It can also cause a skin rash with small, pale red spots on the body. The lymph nodes can become swollen. It often takes several weeks for the symptoms of classic dengue fever to completely disappear.

A severe form of dengue fever can develop in a very small number of sufferers. Children and people who have already experienced a dengue infection are particularly at risk.

The severe form is accompanied by other symptoms, such as severe abdominal pain, vomiting, shortness of breath and impaired consciousness. Blood clotting disorders typically occur over the course of the disease. Signs of this can be small, pinpoint bleeding on the skin (petechiae) or more severely nosebleeds and internal bleeding.

The severe form of dengue fever can lead to circulatory collapse and organ failure. If dengue fever is detected and treated early, the mortality rate is below 1%. In Germany, severe forms of the disease and dengue deaths are extremely rare.

What's the incubation period – and how long are you contagious?

It usually takes 4 to 7 days from infection to the onset of the initial symptoms. Less often symptoms occur after 3 days or only after up to 14 days. Sufferers cannot transmit the virus themselves to other people. They are therefore not contagious to other people, except in the case of a needle injury, for example.

However, if the infected person is bitten by an *Aedes* mosquito, the virus can be transmitted to the mosquito. This mosquito can then infect other people through a bite.

Who is particularly at risk?

The dengue virus can infect people living in tropical or subtropical regions in particular. In Germany, this mainly affects people who are traveling in Central America, South America, South East Asia or parts of Africa. In southern parts of Europe, there are only very few cases of transmission compared to the other regions mentioned. Certain groups of people have an increased risk of a severe case of dengue fever:

- ▶ Children under 15 years of age
- ▶ People who have already been infected with the dengue virus

What should I do if I fall ill?

There is no specific therapy for dengue fever. In the case of illness, only the symptoms can be treated, for example with antipyretics. In the case of pain, certain painkillers (ibuprofen, acetylsalicylic acid) should not be taken due to an increased risk of bleeding. Therefore, talk to your doctor before taking any medication. Severe cases of dengue fever must be treated in hospital.

How can I protect myself?

Protection against mosquito bites

The best way to protect yourself from dengue fever is to protect yourself from mosquito bites when traveling. The following measures are suitable:

- ▶ Wear clothing that covers as much skin as possible.
- ▶ Apply mosquito repellent to the skin. If you use sunscreen, let it absorb well before applying the repellent.
- ▶ Clothing can also be made more repellent by applying mosquito repellent to it. Observe the product's instructions for use.
- ▶ Attach insect screens to windows and doors or use mosquito nets.
- ▶ Stay in air-conditioned rooms if possible.
- ▶ Avoid stagnant water or other open areas of water if possible.

Vaccination

The vaccine Qdenga has been available to protect against dengue fever since spring 2023. In November 2023, a recommendation for this vaccine was issued by the Standing Committee on Vaccination (STIKO). The STIKO recommends vaccination only for people aged 4 years and older who have been proven to have been infected with the dengue virus (i.e. laboratory confirmation of a dengue virus infection is available) and who

- ▶ are planning a trip to a risk area or
- ▶ carry out targeted activities with dengue viruses (e.g. in research institutions or laboratories) outside endemic areas.

Vaccination should take place at the earliest 6 months after a laboratory-confirmed infection with the dengue virus.

Two doses of the vaccine at least 3 months apart are required for adequate vaccination protection.

DENGUE FEVER

Where can I get more information?

Information and advice is available from your local health authority. Since dengue fever must be reported, it has information on the current situation and experience in dealing with the disease.

You can find further information on this subject on the Robert Koch Institute website at www.rki.de/dengue.

You can find answers to frequently asked questions, especially about vaccination, here: <https://www.rki.de/SharedDocs/FAQ/Dengue/FAQ-Liste.html?nn=2397556>.

Information on the STIKO recommendation for vaccination to protect against dengue fever can be found at https://www.rki.de/DE/Content/Infekt/EpidBull/Archiv/2023/Ausgaben/48_23.pdf?__blob=publicationFile.

Travelers can check the travel and safety information provided by the Federal Foreign Office to see if their destination abroad is one of the areas affected by the dengue virus: www.auswaertiges-amt.de.

You will find a world map of the dengue virus-affected areas on the website of the Centre of Disease Control and Prevention in English: <https://www.cdc.gov/dengue/areas-with-risk/>.



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