

Dengue Fever



Causative agent

Dengue fever is a mosquito-borne infection caused by dengue virus. It is found in tropical and sub-tropical climates around the world. The disease is endemic in more than 100 countries, including countries in South East Asia. Dengue virus encompasses four different serotypes, each of which can lead to dengue fever and severe dengue (also known as 'dengue haemorrhagic fever').

Clinical features

Dengue fever is clinically characterised by high fever, severe headache, pain behind the eyes, muscle and joint pain, nausea, vomiting, swollen lymph nodes and rash. Some infected people may not develop apparent symptoms, while some may only have mild and non-specific symptoms such as fever and rash. The symptoms of first infection are usually mild. Once recovered, lifelong immunity to that serotype of dengue virus will develop. However, cross-immunity to the other three serotypes after recovery is only partial and temporary. Subsequent infections with other serotypes of dengue virus are more likely to result in severe dengue.

Severe dengue is a severe and potentially fatal complication of dengue fever. Initially, the features are similar to dengue fever such as high fever. When the fever begins to subside (usually 2 – 7 days after symptom onset), warning signs of severe dengue may start to develop, which include severe abdominal pain, persistent vomiting, rapid breathing, fatigue, restlessness and manifestations of bleeding tendency such as nose or gum bleeding, and possibly blood in vomit or stool. In severe cases, it may progress to circulatory failure, shock and death.

Mode of transmission

Dengue fever is transmitted to humans through the bites of infective female *Aedes mosquitoes*. After feeding on a dengue-infected person, the mosquito becomes infected and may spread the disease by biting other people. The disease cannot be spread directly from human to human, but there is evidence of low possibility of maternal transmission from a pregnant mother to her baby.

In Hong Kong, the principal vector *Aedes aegypti* is not found, but *Aedes albopictus*, which can also spread the disease, is a mosquito commonly found in the locality.

Incubation period

The incubation period is usually 4 – 7 days (may range from 3 to 14 days).



Management

There is no specific treatment for dengue fever and severe dengue. Dengue fever is mostly self-limiting and most people will recover after a week. Symptomatic treatment is given to relieve discomfort. For patients with severe dengue, hospitalization with supportive management is often needed.

Prevention

At present, there is no locally registered dengue vaccine available in Hong Kong. The best preventive measure is to avoid mosquito bites.

Prevention of mosquito bites

1. Wear loose, light-coloured, long-sleeved tops and trousers.

2. Use DEET-containing insect repellent on exposed parts of the body and clothing.
 - Pregnant women and children of 6 months or older can use DEET-containing insect repellent. In general, use DEET of up to 30% for pregnant women and up to 10% for children. For children who travel to countries or areas where mosquito-borne diseases are endemic or epidemic and where exposure is likely, children aged 2 months or above can use DEET-containing insect repellents with a concentration of DEET up to 30%
3. Take additional preventive measures when engaging in outdoor activities:
 - Avoid using fragrant cosmetics or skin care products
 - Re-apply insect repellents according to instructions
 - If both insect repellents and sunscreen are used, apply insect repellents after sunscreen



Prevention of mosquito proliferation

1. Prevent accumulation of stagnant water
 - Change the water in vases once a week
 - Avoid using saucers underneath flower pots
 - Cover water containers tightly
 - Ensure air-conditioner drip trays are free of stagnant water
 - Put all used cans and bottles into covered dustbins
2. Control vectors and reservoir of the diseases
 - Store food and dispose of garbage properly

For more information about control and prevention of mosquito breeding, please visit the website of the Food and Environmental Hygiene Department (FEHD) at https://www.fehd.gov.hk/english/pestcontrol/handbook_prev_mos_breeding.html

Advice for travellers

1. Take preventive measures to avoid mosquito bites. For details about the use of insect repellents and the key points to be observed, please refer to 'Tips for using insect repellents' (<https://www.chp.gov.hk/en/features/38927.html>).
2. If going to affected areas or countries, arrange medical consultation at least 6 weeks before the trip, have extra preventive measures to avoid mosquito bites.
3. If travelling in endemic rural areas, carry a portable bed net and apply permethrin (an insecticide) on it. Permethrin should NOT be applied to the skin. Seek medical attention promptly if feeling unwell.
4. Scientific studies have shown that infected persons can transmit the virus to mosquitoes through mosquito bites even if they remain asymptomatic or before their onset of symptoms, leading to further spread of the disease. Hence, travellers who return from affected areas should apply insect repellent for 14 days after arrival to prevent mosquito bites. If feeling unwell e.g. having a fever, the person should seek medical advice promptly, and provide travel details to the doctor.



Centre for Health Protection Website www.chp.gov.hk

Health Education Infoline of the Department of Health 2833 0111

Revised in August 2025