

Dengue Fever

Centre for Health Protection, Department of Health

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Dengue Fever

■ Causative agent

- Dengue viruses
- Encompass **4 different serotypes**
- Each can lead to dengue fever and severe dengue (also known as 'dengue haemorrhagic fever')

■ Vectors

- *Aedes aegypti*
- *Aedes albopictus*

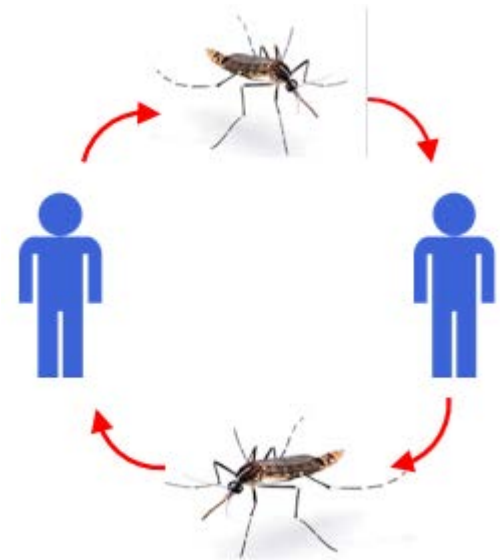


Source of photo:

Food and Environmental Health Department

Mode of Transmission

- 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.
- **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.



Clinical Features

Incubation period ranges from 3 – 14 days,
commonly 4 – 7 days



High fever



Severe headache



Rash

Swollen
lymph node



Muscle and
joint pain



Nausea and
vomiting



Pain behind the eyes

Clinical Features

- Some infected people **may not develop apparent symptoms**
- while some may only have mild and non-specific symptoms such as fever and rash.

Clinical Features

- Symptoms of first infection
 - 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



- 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

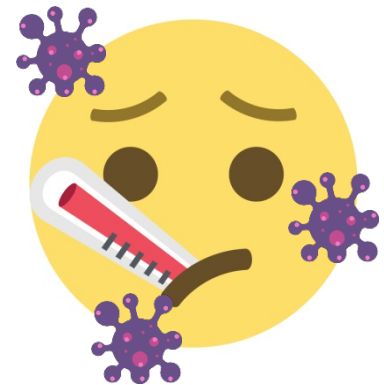
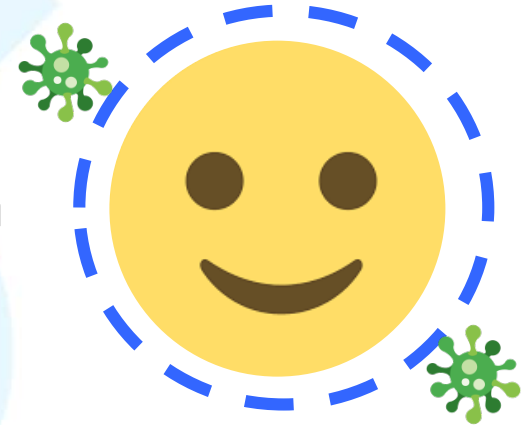
Severe Dengue

- Later, there may be **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.



After Recovery

- Immunity is attained against **that serotype** from its subsequent infection
- **No** effective protection is conferred against subsequent infection by **the other 3 serotypes**
 - Cross-immunity is only partial and temporary
 - Subsequent infections with any of the other 3 serotypes are more likely to result in severe dengue



Management

- There is **no** specific treatment for dengue fever and severe dengue

Patients with dengue fever



- Mostly self-limiting and most people will recover after a week
- Symptomatic treatment is given to relieve discomfort

Patients with severe dengue



- hospitalization with supportive management is often needed

Preventive Measure

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
- Prevention of mosquito proliferation



Prevention of mosquito bites

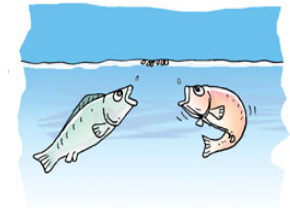
- 1. Wear loose, light-coloured, long-sleeved tops and trousers.
- 2. Use DEET-containing insect repellent on exposed parts of the body and clothing.
 - • Pregnant women and children of 6 months or older can use DEET-containing insect repellent. In general, use DEET of up to 30% for pregnant women and up to 10% for children
- 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



Tips for using insect repellents: http://www.chp.gov.hk/en/view_content/38927.html

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 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%. For details about the use of insect repellents and the key points to be observed, please refer to 'Tips for using insect repellents'.
- 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.



Advice for travellers

- 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.



TV APIs

- Prevention of mosquito-borne diseases



<https://m.youtube.com/watch?v=ulmBLMUuqyU>

- Prevention of dengue fever (subsequent infections)



https://m.youtube.com/watch?v=x-sulfl0_e4

Videos



Video 1



Video 2



Video 3



Video 4



Video 5

Videos



<https://m.youtube.com/watch?v=KOxsfQpn90w&feature=youtu.be>



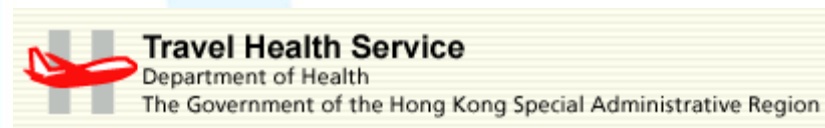
<https://m.youtube.com/watch?v=cZCpujZY5gQ&feature=youtu.be>

Health Education Resource

- Centre for Health Protection Dengue Fever Thematic Website
<https://www.chp.gov.hk/en/features/38847.html>



- Travel Health Service Website
www.travelhealth.gov.hk



- Centre for Health Protection Facebook fanpage
- Centre for Health Protection YouTube channel
- Health Education Infoline of the Department of Health



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Thank you!



Dengue Fever
Thematic Website