QUEENSLAND MUSEUM

# DENGUE FEVER

## FACT SHEET



Q26-027

Queensland Government

# WHAT IS DENGUE FEVER?

Dengue fever is a zoonotic disease caused by any one of the four dengue viruses (DENV), genus *Flavivirus*. It is a vector-borne disease, transmitted by mosquitoes.

In Australia, dengue fever outbreaks mostly occur in central and northern Queensland and the Torres Strait.

## Natural hosts

- Humans are the main reservoir host for dengue viruses in urban epidemics.
- Non-human primates (monkeys) are the natural reservoir hosts (sylvatic cycle) in Asia and Africa.

## How is it spread?

Human-to-human and animal-to-human transmission usually occurs through the bite of an infected female *Aedes aegypti* mosquito; the disease is not spread through casual contact between people. Mosquitoes become infected when feeding on a viraemic host (human or non-human primate with viruses in the blood). Inside the mosquito, the virus multiplies.

The *A. aegypti* mosquito breeds in small water-filled containers close to homes (e.g. pot plant trays, buckets, tyres, blocked gutters). This species is highly adapted to human environments, thriving in urban areas with abundant artificial containers in which standing water can accumulate. Other types of *Aedes* mosquitos not found in mainland Australia, such as the Asian tiger mosquito (*Aedes albopictus*), can also spread dengue virus.

Most of Australia does not have mosquitoes that carry dengue virus, which is why local outbreaks of the disease are limited to areas with established *A. aegypti* populations, mainly in Queensland.

Some dengue fever outbreaks occur when people become infected overseas, travel to Australia and then get bitten by a local *A. aegypti* mosquito. That mosquito can then spread the dengue virus to others.

Although rare, human-to-human transmission of the dengue virus can occur through blood transfusions and tissue or organ transplants.

## Who is at risk?

- People visiting overseas dengue-affected areas (tropical and sub-tropical regions of Asia, Africa and South America) where *Aedes* mosquitoes are present, especially urban environments.
- People living in, or visiting, Australian regions where *Aedes* mosquitoes are present, such as central and northern Queensland, especially urban environments.
- People exposed to high mosquito numbers around home or in their work.



Dengue fever outbreaks are more common during the wet season when mosquito numbers increase.

## What are the symptoms?

### In animals

Non-human primates (monkeys) infected with dengue virus often show mild or no obvious symptoms.

Animals in Australia are not involved in the dengue cycle.

### In humans

People with dengue fever develop illness 3–14 days (usually 4–7 days) after being bitten by an infected mosquito. Many infections produce no symptoms. When symptoms do occur, they are generally flu-like and centered on fever. Symptoms can differ between infants, children and adults.

Mild symptoms may include:

- fever and chills
- headache
- muscle and joint pain
- rash.

Dengue haemorrhagic fever is a severe and potentially fatal complication of the disease. It occurs most often in children and young adults.

Serious symptoms may include:

- severe abdominal pain
- severe headache and pain behind the eyes
- rapid breathing
- blood in vomit
- persistent vomiting
- bleeding gums
- easy bruising
- unexpected bleeding
- fatigue and restlessness.

Dengue cases brought to Australia by overseas travellers can occur anywhere, but transmission of the virus within Australia is rare outside Queensland.

Dengue haemorrhagic fever can cause organ failure and death.

## How can I prevent infection?

There is no vaccine to prevent against first-time dengue infections available in Australia due to low incidence of the disease. People who have had dengue before are at greater risk of severe illness with the disease and may be considered for a dengue vaccine in specific circumstances in consultation with a health professional.

The best way to reduce the risk of infection is through mosquito management and avoidance of mosquito bites. Prevention measures include:

- Remove water-holding containers around the home (e.g. pot plant trays, buckets, tyres, blocked gutters).
- Use insect repellents (DEET or picaridin).
- Install flyscreens.
- Wear a long-sleeved shirt and long pants outdoors.
- Avoid outdoor activity at peak mosquito times (dawn and dusk).
- Support public health mosquito-control programs.

Removing backyard breeding sites is the best prevention measure.

## What treatments are available?

Supportive medical care is used to treat symptomatic cases, focusing on relieving symptoms and preventing dehydration. There is no specific antiviral treatment for dengue fever.

If you think you may have been exposed to dengue virus, please contact your doctor or public health agency for further advice.

**Cover:** An *Aedes aegypti* mosquito.
Courtesy: Alamy/Nisthar Pattanayil
**Page 2:** Pot plant trays and other containers can become breeding sites for mosquitoes. QM, Jeff Wright

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