

# Chikungunya virus

Chikungunya is a viral disease that is spread to humans by mosquitoes. It was first described in 1952 in Tanzania (in East Africa). Outbreaks and epidemics have since been reported from many African countries, as well as from Indian Ocean island nations, the Indian subcontinent, South East Asia and, more recently, the Pacific region and Caribbean.

Chikungunya has been diagnosed in travellers from affected countries who have recently arrived in Australia. Although locally-acquired chikungunya has not been detected in Australia (to the end of June 2014), mosquitoes capable of transmitting chikungunya virus occur in north Queensland, Torres Strait and some locations in central and southern Queensland.

## Signs and Symptoms:

### Clinical features

Symptoms typically start 3 to 7 days (up to 12 days) after a person is bitten by an infected mosquito.

An abrupt onset of fever is usually accompanied by joint pains (arthralgia), swelling and stiffness. Other common symptoms include headache, muscle pains, nausea, fatigue and sometimes a rash on the trunk and limbs which may last for 7 to 10 days. Most people feel better within a week but joint pains associated with chikungunya may be debilitating, and may last for prolonged periods. Most patients recover fully, but in some cases joint pains can persist for months or years.

Occasionally, more severe complications such as heart and nervous system conditions can occur, particularly in older people who have other pre-existing medical conditions. Sometimes the symptoms in infected people are mild and may go unrecognised, or the disease may be misdiagnosed as another cause of fever and joint pain, such as dengue, Ross River or Barmah Forest Virus infection.

Deaths due to chikungunya are rare.

## Treatment:

Chikungunya infection is diagnosed by a blood test. There is no specific treatment for chikungunya. Medications may be required to alleviate joint pain.

## Transmission:

### Spread of Chikungunya virus

Chikungunya virus is spread by the bite of female mosquitoes. Mosquitoes pick up the virus when they feed on a person who is ill with chikungunya, and then pass it on to other people several days later.

The two main mosquitoes involved in the spread of the chikungunya virus are *Aedes aegypti* and *Aedes albopictus* (Asian Tiger mosquito); the same two mosquitoes are known to spread dengue. *Aedes aegypti* is present in north Queensland and in some rural townships of central and southern Queensland, and *Aedes albopictus* is currently only found in a few locations in the Torres Strait.

*Aedes aegypti* is an urban mosquito found in the tropics and sub-tropics. It breeds in water filled, man-made containers such as pot plant bases, discarded containers and water tanks. Adult mosquitoes prefer sheltered, dark resting sites indoors or under houses. Humans are the preferred source of blood-meals for female *Aedes aegypti* which are day biting mosquitoes. *Aedes albopictus* is a highly invasive day biting mosquito which can also breed in containers around the home.

Other Australian mosquito species may transmit chikungunya virus but are probably less important than *Aedes*

*aegypti* or *Aedes albopictus* in terms of transmission potential.

## Prevention:

There is no chikungunya vaccine.

Travellers going to tropical destinations abroad should take precautions to prevent viral infections – including dengue, chikungunya and zika – which are typically spread by *Aedes* mosquitoes. The main precautions are:

- Ensuring hotel (or any other accommodation) rooms are free of mosquitoes, by closing window screens and using insecticide sprays indoors
- Wearing loose fitting, light coloured, long sleeved shirts and long trousers in urban or residential areas to minimise skin exposure to day-biting mosquitoes
- Using an insect repellent containing DEET (diethyl toluamide) or picaridin on exposed skin and reapply as per the manufacturer's instructions. Ask a travel medicine consultant or pharmacist for advice on which repellents are suitable for young children.

Residents should minimise *Aedes aegypti* breeding by either discarding unwanted containers or by turning used containers upside down or by frequently emptying them of water. Fallen palm fronds should be cleared away, as mosquitoes can breed in any water that collects in the base of the frond. Roof gutters should be cleared of leaf debris to prevent pools of water. The indoor environment – both work and residential – should be kept mosquito-free.

Someone who becomes unwell with a high fever during, or soon after, travel to tropical destinations, should seek medical advice as soon as possible. If the person is told that they may have chikungunya (or dengue), the person should use a personal mosquito repellent and stay in well-screened premises for at least as long as the fever persists. If the person is in north Queensland, Torres Strait or central Queensland, an authorised Queensland Health staff member will make contact, and may arrange a visit from a mosquito-control team.

## Help and assistance:

Contact your local Queensland Health [public health unit](https://www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units) (<https://www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units>).

## Related content

### [Dengue fact sheet](http://conditions.health.qld.gov.au/HealthConditions/2/Infections-Parasites/41/Viral-Infections/169/Dengue)

(<http://conditions.health.qld.gov.au/HealthConditions/2/Infections-Parasites/41/Viral-Infections/169/Dengue>)

## Reference

Staples JE, Breiman RF, Powers AM. [Chikungunya fever: an epidemiological review of a re-emerging infectious disease](http://cid.oxfordjournals.org/content/49/6/942.full.pdf+html) (<http://cid.oxfordjournals.org/content/49/6/942.full.pdf+html>). *Clin Infect Dis* 2009; 49: 942-948.